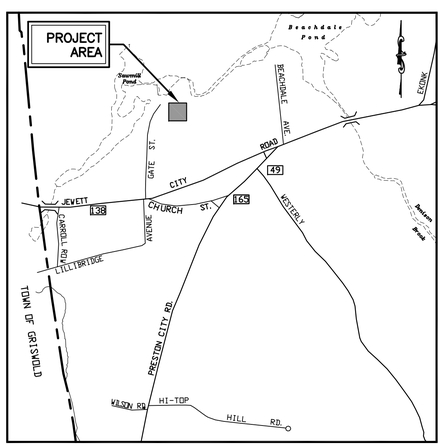
New Town Garage Building
Gate Street, Voluntown, Connecticut

PREPARED FOR
Town of Voluntown, Connecticut

PROPERTY OWNER & APPLICANT

TOWN OF VOLUNTOWN, PUBLIC WORKS
GATE STREET
VOLUNTOWN, CONNECTICUT 06384
MAP 32, LOT 2



LOCATION MAP

SCALE: 1"=±1000'

INDEX TO DRAWINGS

Drawing No.	Description of Drawings
C-1	Site Plan
C-2	Erosion & Sedimentation Control and Landscaping Plan
C-3	Stormwater Management Plan and Erosion & Sedimentation Control Details
C-4-C-6	Construction Details
S-1	Foundation and Mezzanine Framing Plan
S-2	Add-On Alternate Shed Roof
S-3	Structural Details
S-4	Structural Notes
FIS-1	Fuel Island Structural Plan
A-1	Floor & Mezzanine Plan / Roof Plan / Wall Types / Misc. Details
A-1.1	Col./Wall Details / Plan Detail PD-1 / ICC / ANSI / Accessories Info
A-2	New Work / First Floor / Mezzanine / Exterior Elevations / Building Sections
A-2.1	Wall Section
A-3	Sch & Details / Door & Hardware Sch & Details / Room Finish Sch / Window Details
A-4	Interior Room Elevations
A-5	Mezzanine Stair Sections and Details / Guardrail and Details / Tool Crib Design
ALT-1	Alternates / Reflected Ceiling Plan & Details
F-1	Floor Finished / Reflected Ceiling Plan & Details
G-1	Code Data & General Information
P-1	First Floor & Mezzanine Plumbing Plans
P-2	Plumbing Details, Symbols, Notes & Abbreviations
M-1	First Floor & Mezzanine Mech. Plans
M-2	Mechanical Details
M-3	Mechanical Schedules, Symbols, Notes and Abbreviations
E-1	First Floor & Mezzanine Electrical Plans
E-2	First Floor & Mezzanine Lighting Plans
E-3	First Floor & Mezzanine Fire Alarm and Security Plans
E-4	Electrical Schedules and Power Riser
E-5	Electrical Schedules, Details, Symbols, Notes and Abbreviations
SE-1	Site Electrical

Revised: April 5, 2018
Revised: March 20, 2018
Revised: April 5, 2016
January 2016

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MECH / ELEC DESIGN & CONSULTING
Division of The Salamone Group, LLC
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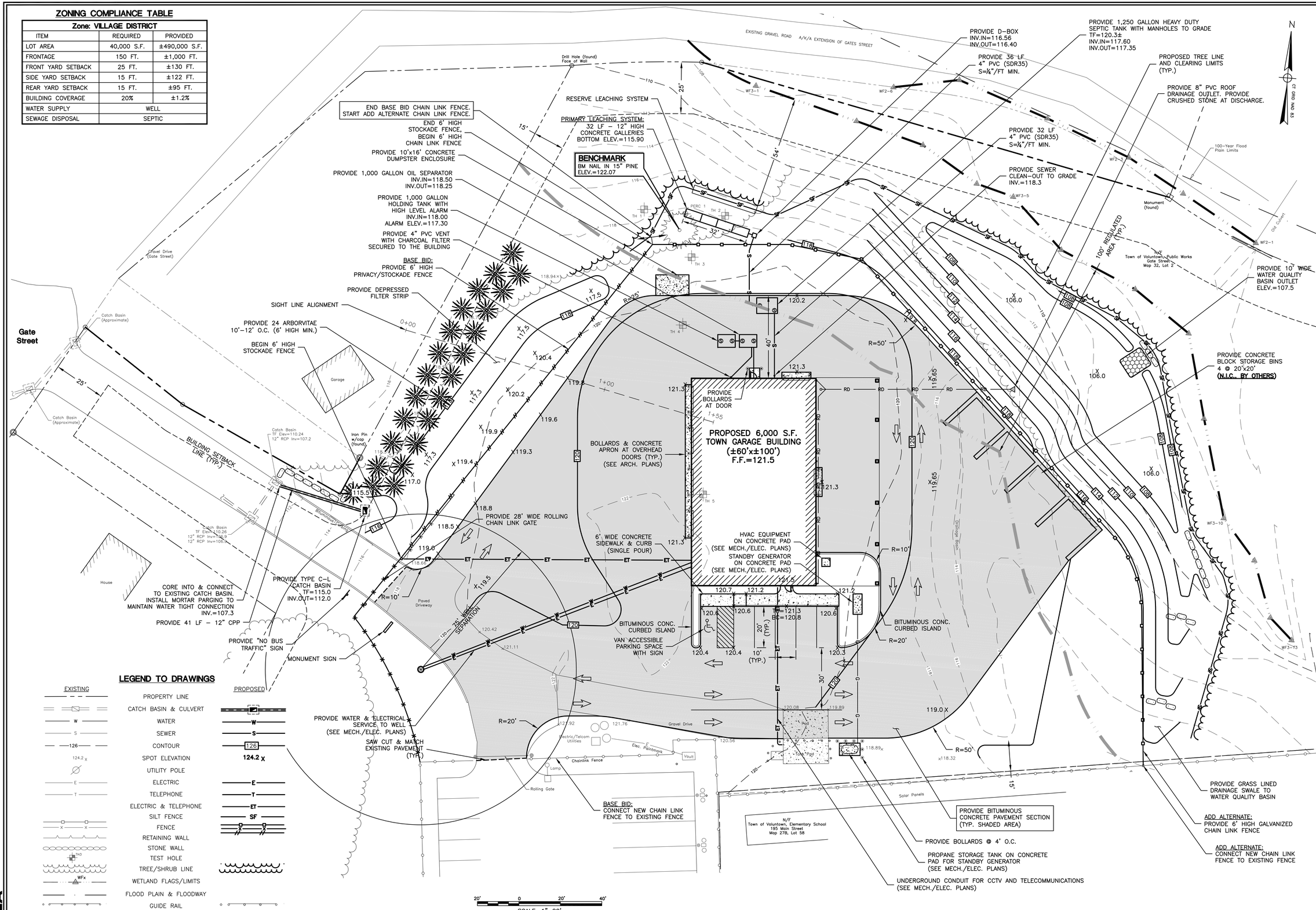
CLA

ZONING COMPLIANCE TABLE

Zone: VILLAGE DISTRICT		
ITEM	REQUIRED	PROVIDED
LOT AREA	40,000 S.F.	±490,000 S.F.
FRONTAGE	150 FT.	±1,000 FT.
FRONT YARD SETBACK	25 FT.	±130 FT.
SIDE YARD SETBACK	15 FT.	±122 FT.
REAR YARD SETBACK	15 FT.	±95 FT.
BUILDING COVERAGE	20%	±1.2%
WATER SUPPLY	WELL	
SEWAGE DISPOSAL	SEPTIC	



LEGEND TO DRAWINGS

EXISTING		PROPOSED
	PROPERTY LINE	
	CATCH BASIN & CULVERT	
W	WATER	W
S	SEWER	S
126	CONTOUR	126
124.2 X	SPOT ELEVATION	124.2 X
	UTILITY POLE	
E	ELECTRIC	E
T	TELEPHONE	T
	ELECTRIC & TELEPHONE	ET
	SILT FENCE	SF
X X	FENCE	
	RETAINING WALL	
	STONE WALL	
TH3	TEST HOLE	
	TREE/SHRUB LINE	
WFx	WETLAND FLAGS/LIMITS	
	FLOOD PLAIN & FLOODWAY	
	GUIDE RAIL	

NUMBER	DATE	REVISION
6	4-5-18	MISC. REVISIONS FOR BID
5	8-9-17	MODIFIED PROPERTY LINES ADDED
4	1-10-17	ADDED PROPOSED SETTLEMENT ITEMS
3	7-13-16	Gravel Drive Note
2	4-5-16	Misc. Revisions per Town Comments
1	3-8-16	Well Location & Misc. Mech/Elec. Revisions

TOWN OF VOLUNTOWN PUBLIC WORKS GARAGE

96 GATE STREET, VOLUNTOWN, CT

Site Plan

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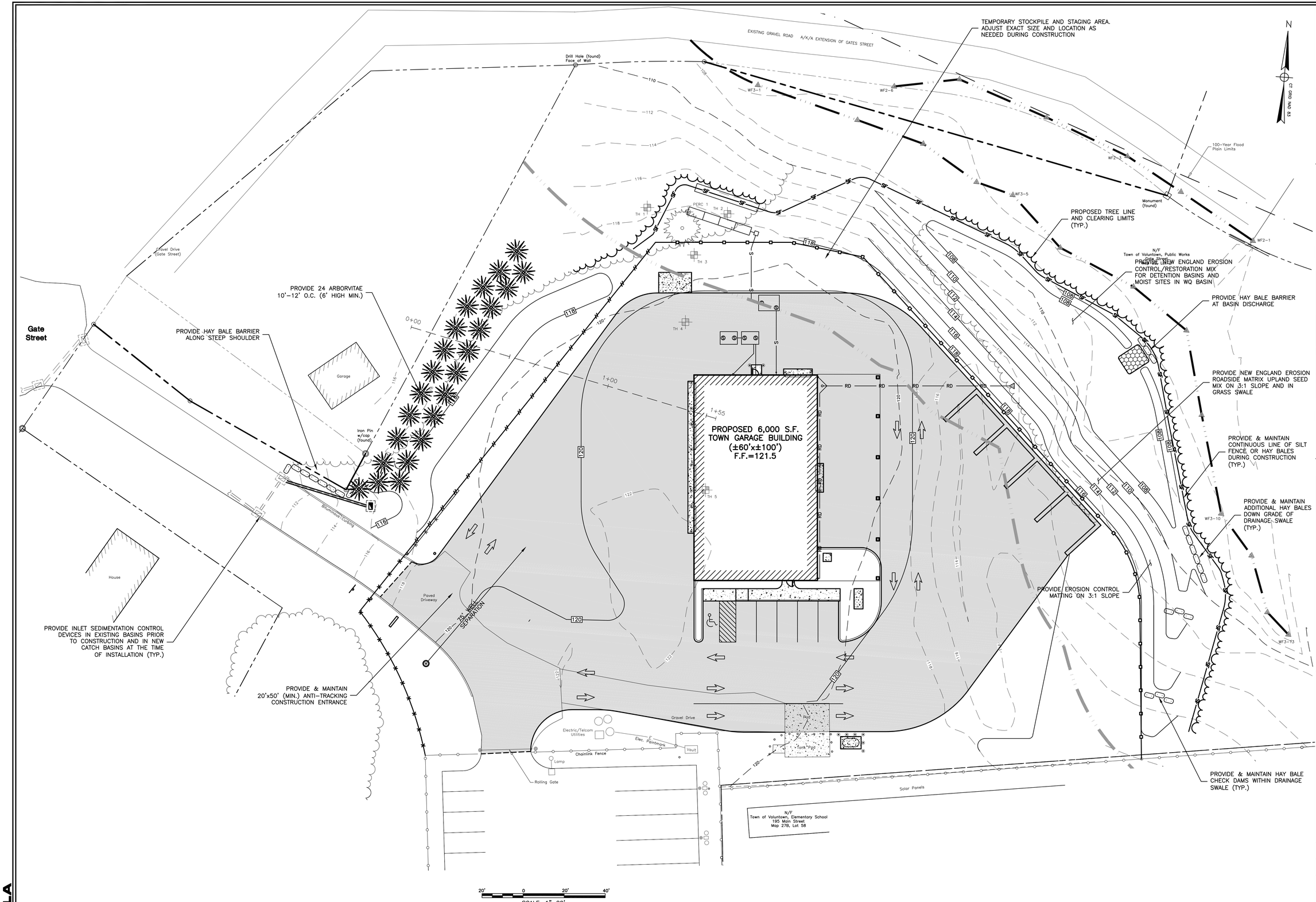
CLA PROJECT NO. CLA-15-5598

PROJ. ENGINEER R.A.D.

DATE: 02/26/16

SHEET NO. C-1



NUMBER	DATE	REVISION
5	8-9-17	MODIFIED PROPERTY LINES ADDED
4	7-13-16	Gravel Drive Note
3	4-5-16	Landscape Screening
2	3-8-16	Well Location + Misc. Mech/Elec. Revisions
1	3-1-16	Misc. Revisions for Permit

TOWN OF VOLUNTOWN PUBLIC WORKS GARAGE

96 GATE STREET, VOLUNTOWN, CT

Erosion & Sedimentation Control and Landscaping Plan

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CLA PROJECT NO. CLA-15-5598

PROJ. ENGINEER R.A.D.

DATE: 02/26/16

SHEET NO. C-2

EROSION & SEDIMENTATION CONTROL NARRATIVE

1. THE EROSION & SEDIMENTATION CONTROL PLAN AND DETAILS HAVE BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEP.
2. THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL MEASURES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROVIDED SILT FENCE, STONE CHECK DAMS AND/OR OTHER EROSION CONTROL MEASURES AS NEEDED OR DIRECTED BY THE ENGINEER OR TOWN STAFF TO ADEQUATELY PREVENT SEDIMENT TRANSPORT.
3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
4. THE CONTRACTOR SHALL INSPECT, REPAIR AND/OR REPLACE EROSION CONTROL MEASURES EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT. SEDIMENT DEPOSITS MUST BE REMOVED WHEN WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
5. STAKED HAY BALE SILT BARRIERS OR SILT FENCE SHALL BE INSTALLED AROUND ANY TEMPORARY STOCKPILE AREAS. TEMPORARY VEGETATIVE COVER MAY BE REQUIRED (SEE NOTE).
6. INLET SEDIMENTATION CONTROL DEVICES SHALL BE INSTALLED UNDER THE GRATES OF ALL NEW CATCH BASINS AT THE TIME OF INSTALLATION, AND UNDER THE GRATES OF EXISTING CATCH BASINS IN THE CONSTRUCTION AREA.
7. CONTINUOUS DUST CONTROL USING WATER, CALCIUM CHLORIDE OR APPROVED EQUAL SHALL BE PROVIDED FOR ALL EARTH STOCKPILES, EARTH PILED ALONG EXCAVATIONS, SURFACES OF BACKFILLED TRENCHES AND GRAVELED ROADWAY SURFACES.
8. IF DEWATERING IS NECESSARY DURING ANY TIME OF CONSTRUCTION A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS SHOWN IN THE HAY-BALE BARRIER DEWATERING DETAIL OR ALTERNATE METHOD PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
9. ALL DISTURBED AREAS SHALL BE RESTORED PER THE SLOPE STABILIZATION AND PERMANENT VEGETATION DETAILS. ALL DISTURBED AREAS THAT ARE SLOPED LESS THAN THREE HORIZONTAL TO ONE VERTICAL (3:1) SLOPE SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED PER THE PERMANENT VEGETATIVE COVER SPECIFICATIONS. EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL DISTURBED AREAS THAT ARE SLOPED MORE THAN THREE HORIZONTAL TO ONE VERTICAL (3:1).
10. IF FINAL SEEDING OF DISTURBED AREAS IS NOT TO BE COMPLETED BEFORE OCTOBER 15, THE CONTRACTOR SHALL PROVIDE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY PERMANENT SEEDING.
11. WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISHED GRADED SHALL BE COMPLETED PRIOR TO OCTOBER 15.
12. ANY EROSION WHICH OCCURS WITHIN THE DISTURBED AREAS SHALL BE IMMEDIATELY REPAIRED AND STABILIZED. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT SHALL BE RETURNED TO THE SITE. POST SEEDING, INTERCEPTED SEDIMENT, IF ANY, SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE TOWN AND ENGINEER.
13. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL VEGETATION IS RE-ESTABLISHED OR SLOPES ARE STABILIZED AND REMOVAL IS APPROVED BY THE TOWN.
14. UNFORESEEN PROBLEMS WHICH ARE ENCOUNTERED IN THE FIELD SHALL BE SOLVED ACCORDING TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEP.
15. THE CONTRACTOR SHALL PROVIDE THE NAME AND EMERGENCY CONTACT INFORMATION FOR THE PROJECT PERSONNEL RESPONSIBLE FOR EROSION AND SEDIMENTATION CONTROLS PRIOR TO THE START OF CONSTRUCTION.

NOTE: THE CONTRACTOR SHALL CONTINUALLY STORE THE FOLLOWING MATERIALS ONSITE DURING CONSTRUCTION TO MEET UNEXPECTED EROSION NEEDS

* 100 LF OF SILT FENCE
* 10 HAY BALES
* 10 CY OF WOOD CHIPS OR CRUSHED STONE

SOIL TYPES

THE SITE IS GENERALLY COMPOSED OF THE FOLLOWING SOIL TYPES:

UDORTHENTS-URBAN LAND COMPLEX	306 (Ud)
RIPPOWAM FINE SANDY LOAM	103 (Ro)

STORMWATER MANAGEMENT & POLLUTION PREVENTION PLAN

1. POLLUTION PREVENTION TEAM:
   THE OWNERS WILL BE RESPONSIBLE FOR CARRYING OUT THE PROVISIONS OF THIS PLAN.
2. SWEEPING:
   PARKING LOTS, SIDEWALKS AND OTHER IMPERVIOUS SURFACES SHALL BE SWEPT CLEAN OF SAND AND LITTER AND ANY OTHER POLLUTANTS AT LEAST TWICE PER YEAR.
   A. BETWEEN NOVEMBER 15 AND DECEMBER 15 (AFTER LEAF FALL)
   B. DURING APRIL (AFTER SNOW MELT)
3. OUTSIDE STORAGE:
   ACCESSORIES OR EQUIPMENT STORED OUTSIDE SHALL BE COVERED OR MAINTAINED TO MINIMIZE POSSIBILITY OF THESE MATERIALS OR THEIR RESIDUE PASSING TO STORM WATER.
4. WASHING:
   NO WASHING OF VEHICLES, ACCESSORIES, EQUIPMENT OR APPLIANCES IN PARKING AREAS.
5. MAINTENANCE AND INSPECTION:
   A. MONTHLY INSPECTION OF STORM WATER STRUCTURES AND OUTFALLS.
   B. CLEAN SEDIMENT AND DEBRIS FROM STRUCTURES AT LEAST ONCE PER YEAR DURING APRIL.
   C. REMOVE SEDIMENT AND DEBRIS FROM WATER QUALITY, RETENTION, DETENTION BASINS AND RAIN GARDENS WHEN SEDIMENT ACCUMULATION REACHES ½ OF THE THE STORAGE VOLUME OF THE BASIN OR GARDEN.
   D. BASIN: MOW/BRUSH HOG BOTTOM ONCE PER YEAR ON SEPTEMBER.
6. SPILLS OR ACCIDENTAL DISCHARGES:
   COMPLY WITH STATE AND FEDERAL REGULATIONS TO CONTAIN AND CLEAN UP ANY SPILL OR DISCHARGE AND DISPOSE OF MATERIALS AT AN APPROVED FACILITY.

   CONTACT CONNECTICUT DEEP OIL AND CHEMICAL SPILL RESPONSE DIVISION (860) 424-3338

   THE FOLLOWING STEPS SHOULD BE PERFORMED AS SOON AS POSSIBLE:
   A. STOP THE SOURCE OF THE SPILL
   B. CONTAIN THE SPILL
   C. COVER SPILL WITH ABSORBENT MATERIAL SUCH AS KITTY LITER, SAWDUST OR OIL ABSORBENT PADS. DO NOT USE STRAW.
   D. DISPOSE OF ABSORBER IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.

PERVIOUS TOPSOIL MIX

FOR USE IN THE RETENTION BASIN AND RAIN GARDENS.

MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE M.13.01 OF DOT FORM 816 WITH THE FOLLOWING GRADATION:

SIEVE	% PASSING
#10	100%
#40	60-80%
#80	5%
#200	0%

DO NOT COMPACT MATERIAL DURING INSTALLATION.

TEMPORARY VEGETATIVE COVER

A TEMPORARY SEEDING OF RYE GRASS WILL BE COMPLETED WITHIN 15 DAYS OF THE FORMATION OF STOCKPILES. IF THE SOIL IN THE STOCKPILES HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS IT SHALL BE LOOSENED TO A DEPTH OF 2 INCHES BEFORE THE FERTILIZER, LIME AND SEED IS APPLIED. 10-10-10 FERTILIZER AT A RATE OF 7.5 POUNDS PER 1000 S.F. LIMESTONE AT A RATE OF 90 LBS. PER 1000 S.F. SHALL BE USED. RYE GRASS APPLIED AT A RATE OF 1 LB. PER 1000 S.F. SHALL PROVIDE THE TEMPORARY VEGETATIVE COVER. STRAW FREE FROM WEEDS AND COARSE MATTER SHALL BE USED AT A RATE OF 70-90 LBS. PER 1000 S.F. AS A TEMPORARY MULCH. APPLY MULCH AND DRIVE TRACKED EQUIPMENT UP AND DOWN SLOPE OVER ENTIRE SURFACE SO CLEAT MARKS ARE PARALLEL TO THE CONTOURS.

PERMANENT VEGETATIVE COVER

TOPSOIL WILL BE REPLACED ONCE THE EXCAVATIONS HAVE BEEN COMPLETED AND THE SLOPES ARE GRADED AS SHOWN ON THE PLANS. PROVIDE SLOPE PROTECTION AS CALLED FOR ON THE PLANS AND DETAILS. TOPSOIL SHALL BE SPREAD AT A MINIMUM COMPACTED DEPTH OF 4 INCHES. ONCE THE TOPSOIL HAS BEEN SPREAD, ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION WILL BE REMOVED AS WELL AS DEBRIS, APPLY AGRICULTURAL GROUND LIMESTONE AT THE RATE OF TWO TONS PER ACRE OR 100 LBS. PER 1000 S.F. APPLY 10-10-10 FERTILIZER OR EQUIVALENT AT A RATE OF 300 LBS. PER ACRE OR 7.5 LBS. PER S.F.. WORK LIMESTONE INTO THE SOIL TO A DEPTH OF 4 INCHES. INSPECT SEEDBED BEFORE SEEDING. IF TRAFFIC HAS COMPACTED THE SOIL, RETILL COMPACTED AREAS. APPLY THE FOLLOWING GRASS SEED MIX:

SEED MIXTURE

WATER QUALITY BASINS & SWALES

SEE BELOW

REMAINDER OF DISTURBED AREAS	LBS./ACRE	LBS./1000 S.F.
KENTUCKY BLUEGRASS	20	0.45
CREEPING RED FESCUE	20	0.45
PERENNIAL RYEGRASS	5	0.10
	45	1.00

THE RECOMMENDED SEEDING DATES ARE:
APRIL 1 - JUNE 15 AND AUGUST 15 - OCTOBER 15

IMMEDIATELY FOLLOWING SEEDING, FIRM SEED BED WITH A ROLLER AND MULCH WITH WEED FREE STRAW. IF PERMANENT VEGETATIVE COVER IS HAS NOT BEEN ESTABLISHED BY SEPTEMBER 30, APPLY A TEMPORARY VEGETATIVE COVER ON THE TOPSOIL.

VEGETATIVE COVER FOR WATER QUALITY BASIN

SEED MIXTURE FOR WETLAND AREAS AND AREAS ADJACENT TO WETLANDS SHALL BE THE "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR MOIST SITES" FROM NEW ENGLAND WETLAND PLANTS, AMHERST, MA, TELEPHONE NO. 413-548-8000

THE BEST RESULTS ARE OBTAINED WITH A SPRING SEEDING. SUMMER AND FALL SEEDING REQUIRE A LIGHT MULCHING OF WEED FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE WIRE A 10% INCREASE IN THE SEEDING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOILS ARE PARTICULARLY INFERTILE.

WATER QUALITY BASIN SEED MIXTURE	LBS./ACRE	LBS./1000 S.F.
NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES	35	0.80

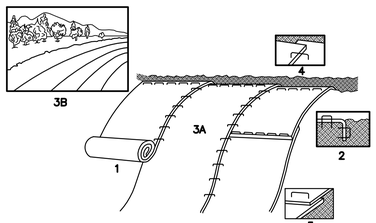
SPECIES: Virginia Wild Rye, (Elymus virginicus), Creeping Red Fescue, (Festuca rubra), Little Bluestem, (Schizachyrium scoparium), Big Bluestem, (Andropogon gerardii), Fox Sedge, (Carex vulpinoidea), Switch Grass, (Panicum virgatum), Rough Bentgrass, (Agrostis scabra), New England Aster, (Aster novae-angliae), Boneset, (Eupatorium perfoliatum), Grass Leaved Goldenrod, (Euthamia graminifolia), Green Bulrush, (Scirpus atrovirens), Blue Vervain, (Verbena hastata), Soft Rush, (Juncus effusus), Wool Grass, (Scirpus cyperinus)

GRASS SWALE & 3:1 SLOPE SEED MIXTURE	LBS./ACRE	LBS./1000 S.F.
NEW ENGLAND EROSION ROADSIDE MATRIX UPLAND SEED MIX	35	0.80

SPECIES:
Grasses
Virginia Wild Rye (Elymus virginicus), Little Bluestem (Schizachyrium scoparium), Creeping Red Fescue (Festuca rubra), Big Bluestem (Andropogon gerardii), Indian Grass (Sorghastrum nutans), Switch Grass (Panicum virgatum)

Wildflowers
Partridge Pea (Chamaecrista fasciculata), Butterfly Milkweed (Asclepias tuberosa), Golden Alexanders (Zizia aurea), Smooth Blue Aster (Aster laevis), Bush Clover (Lespedeza capitata), Purple Joe Pye Weed (Eupatorium purpureum), Wild Bergamot (Monarda fistulosa), Green Headed Coneflower (Rudbeckia laciniata), Grass Leaved Goldenrod (Euthamia graminifolia), New England Aster (Aster novae-angliae), Early Goldenrod (Solidago juncea)

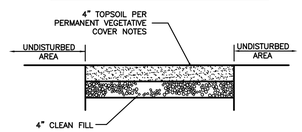
Shrubs
Red-osierDogwood (Cornus sericea), Staghorn Sumac (Rhus typhina), Witch Hazel (Hamamelis virginiana), Black Cherry (Prunus serotina)



1. PROVIDE 4" THICKNESS OF TOPSOIL OVER CLEAN FILL. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED MIX PER PERMANENT VEGETATIVE COVER NOTES. (SHALL BE PAID FOR AT THE UNIT PRICE FOR LOAM, SEED, FERTILIZE & MULCH)
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP x 6" WIDE TRENCH, BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKET (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

NOTE: ALL PERMANENT EROSION CONTROL BLANKETS ARE TO BE NORTH AMERICAN GREEN BIONET C125BN OR APPROVED EQUAL.

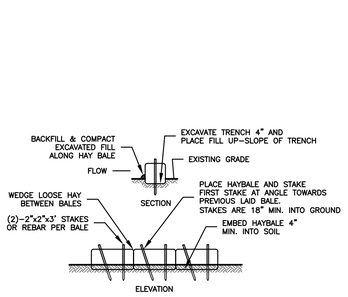
EROSION CONTROL MATTING DETAIL (FOR 3:1 SLOPES OR GREATER)



TYPICAL LOAM & SEED SECTION DETAIL (FOR ALL DISTURBED AREAS)

SLOPE STABILIZATION DETAILS

NOT TO SCALE



HAY BALE BARRIER DETAIL

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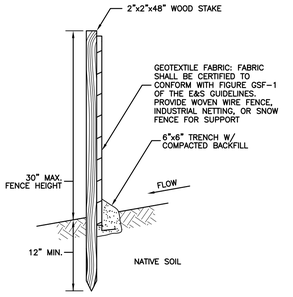

SILT FENCE SECTION

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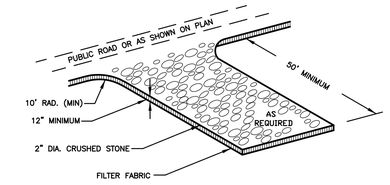

ANTI-TRACKING PAD DETAIL

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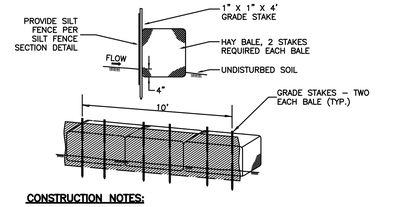
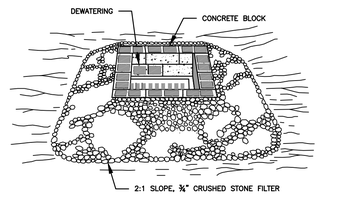


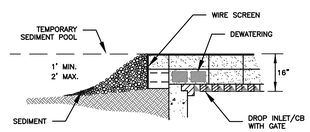
CONSTRUCTION NOTES:

1. SILT FENCE FILTER CLOTH TO BE SECURELY FASTENED TO GRADE STAKE WITH STAPLES, 6" ON CENTER.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN ONE ANOTHER THEY SHALL OVERLAP BY 6" AND BE FOLDED.
3. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

SILT FENCE BACKED BY HAY BALES DETAIL

NOT TO SCALE





STONE CHECK DAM DETAIL

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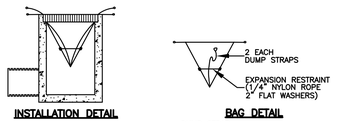
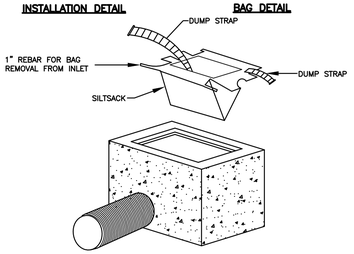
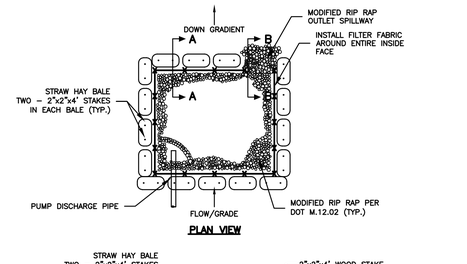




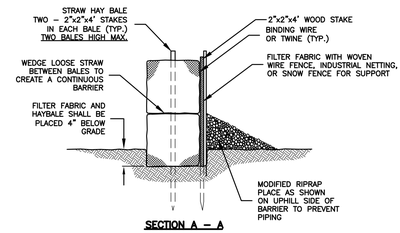
NOTE:
TO BE PROVIDED IN ALL NEW CATCH BASINS AT THE TIME OF INSTALLATION AND WITHIN BASINS ADJACENT TO THE WORK AREA PRIOR TO THE START OF CONSTRUCTION

INLET SEDIMENT CONTROL DEVICE DETAIL

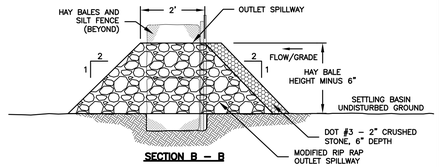
NOT TO SCALE



PLAN VIEW



SECTION A - A



SECTION B - B

CONSTRUCTION NOTES:

1. SILT FENCE FILTER CLOTH TO BE SECURELY FASTENED TO GRADE STAKE WITH STAPLES, 6" ON CENTER.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN ONE ANOTHER THEY SHALL OVERLAP BY 6" AND BE FOLDED.
3. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

DEWATERING PLAN

A CLEAR WATER DISCHARGE SHALL BE PROVIDED AS FOLLOWS:
1. PUMP INLET SHALL BE PROTECTED WITH FILTER FABRIC & CRUSHED STONE.
2. PUMP SHALL BE STAGED OUTSIDE OF WETLANDS.
3. THE WATER SHALL BE PUMPED TO A DEWATERING STRUCTURE WHICH SHALL BE LOCATED AT LEAST 50 FEET FROM ANY REGULATED WETLAND AREA OR AS SHOWN ON THE PLANS.
4. THE DEWATERING STRUCTURE SHALL BE SIZED TO ACCOMMODATE PUMP DISCHARGE RATE: **REQUIRED VOLUME (C.F.) = PUMP DISCHARGE (G.P.M.) x 18**
5. THE DEWATERING STRUCTURE SHALL DISCHARGED TO A VEGETATED AREA.
6. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN AND PROPERLY DISPOSED OF WHEN ACCUMULATION REACHES HALF OF THE REQUIRED STORAGE VOLUME.
7. DEWATERING AREA SHALL BE RESTORED WITH NEW ENGLAND EROSION CONTROL SEED MIX.

HAY BALE BARRIER DE-WATERING DETAIL

NOT TO SCALE

NUMBER	DATE	REVISION
1	3-1-16	Misc. Revisions for Permit

TOWN OF VOLUNTOWN
PUBLIC WORKS GARAGE
96 GATE STREET, VOLUNTOWN, CT

Stormwater Management Plan and Erosion & Sedimentation Control Details

CLA Engineers, Inc.
CIVIL · STRUCTURAL · SURVEYING
317 Main Street Norwich, Connecticut
(860) 886-1966 Fax (860) 886-9165
www.claengineers.com

CLA PROJECT NO. CLA-15-5598
PROJ. ENGINEER R.A.D.
DATE: 02/26/16
SHEET NO. C-3

DEVELOPMENT

THE PROPOSED DEVELOPMENT INCLUDES THE CONSTRUCTION OF AN ±6,000 SQUARE FOOT PUBLIC WORKS GARAGE FOR THE TOWN OF VOLUNTOWN. THE EXISTING SITE WILL BE CLEARED, REGRADED AND PAVED AS SHOWN ON THE SITE PLANS TO ACCOMMODATE THE PROPOSED USE. THE PROPOSED DEVELOPMENT WILL DISTURB APPROXIMATELY 1.5 ACRES.

- THERE IS NO PROPOSED WORK WITHIN THE 100-YEAR FLOOD PLAIN (FIRM MAP #09011C0253G)
- THERE IS NO PROPOSED WETLAND DISTURBANCE

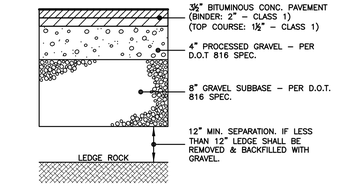
GENERAL NOTES

1. TOPOGRAPHY ESTABLISHED BY CLA ENGINEERS, INC.
2. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT 811 PRIOR TO THE START OF CONSTRUCTION.
3. INFORMATION SHOWN ON THE DRAWINGS RELATING TO MATERIALS, CONDITIONS, AND/OR LOCATIONS OF EXISTING STRUCTURES AND UTILITIES HAS BEEN COMPILED FROM AVAILABLE INFORMATION INCLUDING FIELD SURVEY, UTILITY COMPANY AND TOWN RECORD MAPS AND DRAWINGS, AND IS NOT GUARANTEED ACCURATE OR COMPLETE.
4. THE CONTRACTOR SHALL EXCAVATE TEST PITS AS NEEDED OR AS DIRECTED BY THE OWNER TO VERIFY UTILITY INFORMATION.
5. PASSAGE OF TRAFFIC ON ROADWAYS: A MINIMUM OF ONE LANE FOR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL PERFORM HIS OPERATIONS TO MINIMIZE DISRUPTIONS TO TRAFFIC WITHIN THE PROJECT SITE. A SINGLE LANE OF TRAFFIC MUST BE MAINTAINED AT ALL TIMES FOR RESIDENTS, BUSINESSES AND EMERGENCY VEHICLES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF TRAFFIC AND TRAFFIC CONTROL.
7. THE CONTRACTOR SHALL CONFINE HIS OPERATIONS AND ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE STREET LINES, EASEMENTS AND PROPERTY AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT, ROADWAY, SIDEWALKS, ETC., OUTSIDE OF THE WORK AREA AND SHALL REPAIR SUCH DAMAGE AT NO ADDITIONAL COST TO THE OWNER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY AND PERMANENT SUPPORT OF ALL EXISTING UTILITY POLES IN AN ADJACENT TO THE CONSTRUCTION AREA AND SHALL COMPLY WITH ALL THE REQUIREMENTS AND SPECIAL DETAILS FOR THE SUPPORT OF UTILITIES REQUIRED BY UTILITY AGENCIES. ALL COSTS FOR TEMPORARILY SUPPORTING UTILITY POLES DURING CONSTRUCTION SHALL BE INCLUDED IN OTHER ITEMS.
9. MATERIAL STOCKPILE AND STAGING AREAS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING STOCKPILE, MATERIAL STORAGE AND EQUIPMENT STORAGE AREAS. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL IDENTIFY THESE AREAS AND PROVIDE EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED.
10. IF BLASTING IS PERFORMED A PRE-BLAST SURVEY WILL BE REQUIRED. ANY AND ALL BLASTING SHALL CONFORM TO THE REGULATIONS SET FORTH BY THE TOWN AND SHALL BE APPROVED BY THE APPROPRIATE TOWN AGENCIES AND ADJACENT UTILITY OWNERS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SURVEY AND STAKEOUT AS THEY NEED. CONTROL POINT INFO WILL BE PROVIDED PRIOR TO CONSTRUCTION.

CALL TWO FULL WORKING DAYS IN ADVANCE

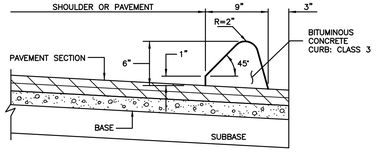
CALL BEFORE YOU DIG

811

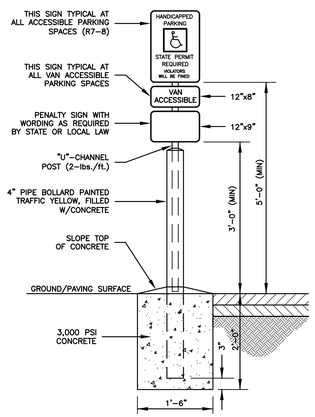


NOTES:
1. PROVIDE CONTINUOUS TACK COAT ALONG EDGE WHEN MATCHING EXISTING PAVEMENT
2. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL WHEN TESTED IN ACCORDANCE WITH AASHTO T180, METHOD D

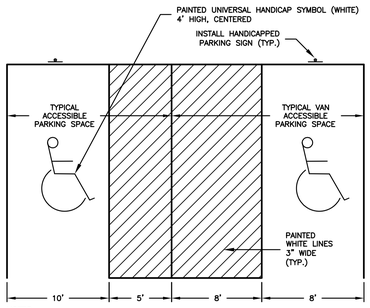
TYPICAL PAVEMENT SECTION DETAIL
NOT TO SCALE



BITUMINOUS CONCRETE LIP CURBING
NOT TO SCALE

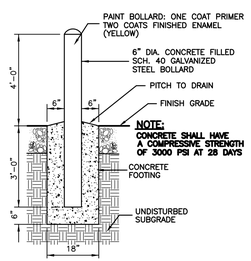


HANDICAPPED ACCESSIBLE PARKING SIGN
NOT TO SCALE

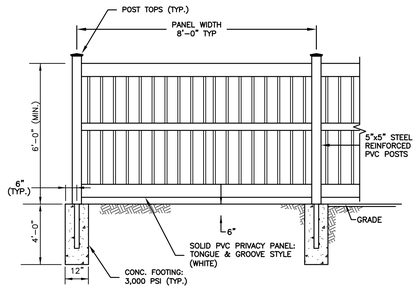


NOTES:
1. ALL HANDICAP ACCESSIBLE SIGNING, DIMENSIONS AND SPACE MARKINGS SHALL BE IN ACCORDANCE WITH CGS 14-253a(h) AND THE 2003 PORTION OF THE STATE BUILDING CODE

HANDICAP ACCESSIBLE PARKING SPACE
NOT TO SCALE

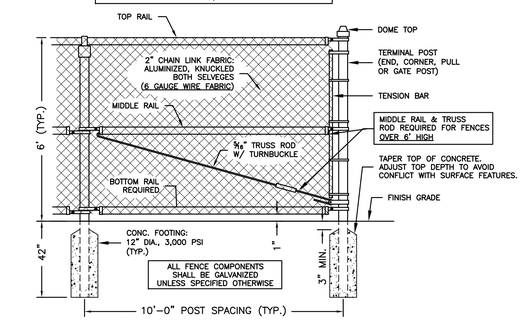


BOLLARD DETAIL
NOT TO SCALE

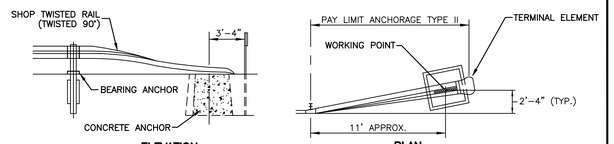


PVC PRIVACY/STOCKADE FENCE DETAIL
NOT TO SCALE

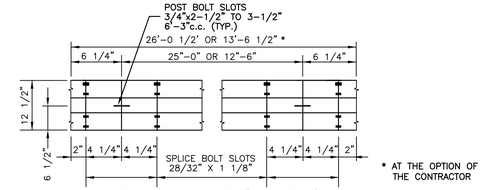
	NPS DESIGNATOR	O.D.	WEIGHT (LBS/FT)
LINE POSTS:	2½"	2.875"	5.79
TERMINAL POSTS:	3½"	4.000"	9.11
GATE POSTS:	3½"	4.000"	9.11
TOP, CENTER, BOTTOM AND BRACE RAILS:	1¼"	1.660"	2.27



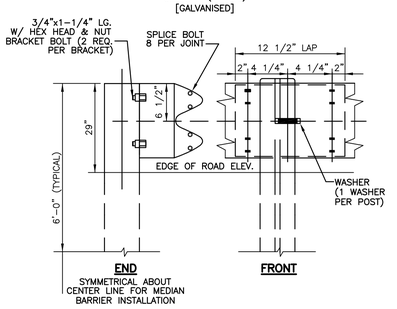
TYPICAL CHAIN LINK FENCE DETAIL
NOT TO SCALE



RB END ANCHORAGE – TYPE II

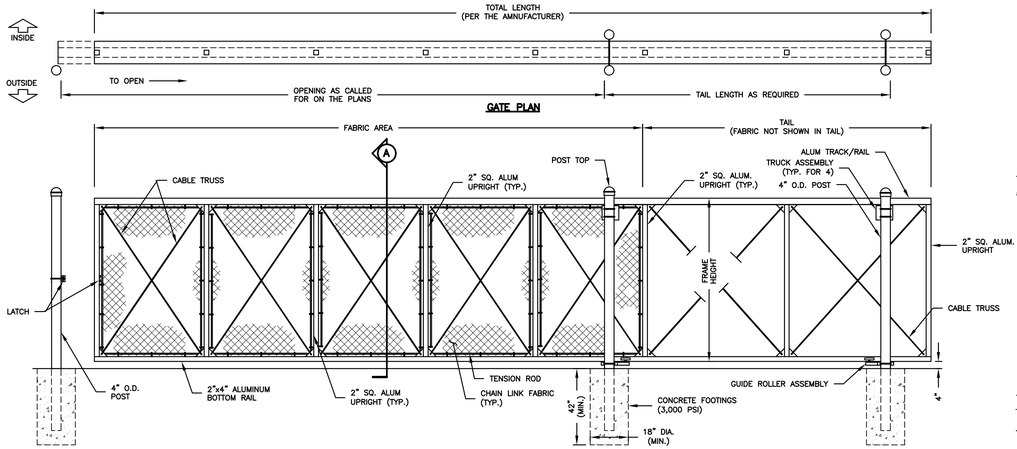


TYPICAL RAIL ELEMENT (GALVANIZED)
CLASS A (12 GA.)
[GALVANISED]

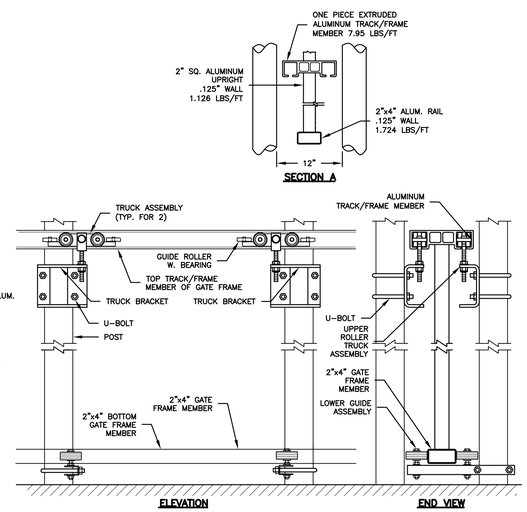


NOTES:
1. **INSTALLATION OF RAIL AND ANCHORAGES TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF CT. DOT.**
2. **METAL BEAM RAIL TO BE DOT TYPE RB-350 PER DOT SPECIFICATIONS.**
3. **PROVIDE RB-TYPE II END ANCHORAGES PER DOT SPECIFICATIONS.**

METAL BEAM RAIL AND END ANCHORAGE
NOT TO SCALE



ALUMINUM CANTILEVERED SLIDE GATE (DUAL TRACK) DETAIL
NOT TO SCALE



NUMBER	DATE	REVISION
1	4-5-16	Details Modified
1	3-1-16	Misc. Revisions for Permit

TOWN OF VOLUNTOWN
PUBLIC WORKS GARAGE
96 GATE STREET, VOLUNTOWN, CT

Construction Details

CLA Engineers, Inc.
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CLA PROJECT NO. CLA-15-5598
PROJ. ENGINEER R.A.D.
DATE: 02/26/16
SHEET NO. C-4

TEST HOLE DATA

PERFORMED BY ROBERT DELUCA OF CLA ENGINEERS, INC.

TEST HOLE 1
0–14" TOPSOIL – SILTY/SANDY
14"–96" SANDY GRAVEL WITH COBBLES & BOULDERS
DEPTH: 96"
NO LEDGE
NO WATER
NO MOTTLING

TEST HOLE 2
0–18" TOPSOIL – SILTY/SANDY
18"–90" SANDY GRAVEL WITH COBBLES & BOULDERS
DEPTH: 90"
NO LEDGE
NO WATER
NO MOTTLING

TEST HOLE 3
0–6" BROWN SILTY GRAVEL
6"–98" SILTY SANDY GRAVEL – FIRM
DEPTH: 98"
NO LEDGE
NO WATER
NO MOTTLING

TEST HOLE 4
0–6" BROWN SILTY GRAVEL
6"–110" GRAY SANDY GRAVEL WITH COBBLES & BOULDERS – FIRM
DEPTH: 110"
NO LEDGE
NO WATER
NO MOTTLING

TEST HOLE 5
0–96" GRAY SANDY GRAVEL WITH COBBLES & BOULDERS – FIRM
DEPTH: 96
NO LEDGE
NO WATER
NO MOTTLING

PERCOLATION RATE

PERFORMED BY ROBERT DELUCA OF CLA ENGINEERS, INC.

PERC. TEST
HOLE DEPTH: 24"
PRESOAK @ 8:35
EMPTY @ 9:37

TIME	READING
0 MIN	5½"
5 MIN	6½"
10 MIN	7⅜"
15 MIN	8⅛"
20 MIN	8⅝"
25 MIN	9¼"
30 MIN	9¾"
35 MIN	10¼"
40 MIN	10¾"
45 MIN	11¼"
50 MIN	11⅝"
55 MIN	12"
60 MIN	12⅜"

2⅝" DROP OVER LAST 30 MIN
RATE: 11.4 MIN/IN

SEPTIC SYSTEM DESIGN

PRIMARY SYSTEM:
PUBLIC WORKS BUILDING WITH SHOWER: 5 EMPLOYEES
DESIGN FLOW PER TABLE 4 (FACTORY): 35 GPD / EMPLOYEE
DESIGN FLOW = 35 GPD / EMPL. x 5 EMPL. = 175 GPD
PERCOLATION RATE: 11.4 MIN./INCH
APPLICATION RATE: 1.2
REQ. EFFECTIVE LEACHING AREA = 175 GPD / 1.2 = 145.8 SF
DEPTH TO RESTRICTIVE LAYER = 90" (T.H. 2)
MLSS NOT REQUIRED
USE A 12" HIGH CONCRETE GALLERIES
EFFECTIVE LEACHING AREA OF GALLERY = 5.9 SF/LF
LENGTH OF GALLERY REQ. = (175 SF)/(5.9 SF/LF) = 29.7 LF
USE 1 ROW OF 32 LF 12" HIGH CONCRETE GALLERIES
LEACHING AREA PROVIDED = 188 SF

RESERVE SYSTEM:
USE SAME AS PRIMARY SYSTEM

SEPTIC SYSTEM NOTES

1. PROPOSED WELL AND SEPTIC SYSTEM TO BE STAKED IN THE FIELD BY A LAND SURVEYOR LICENSED IN THE STATE OF CONNECTICUT. OFFSET STAKES SHALL INCLUDE FLOW LINE OR BOTTOM OF TRENCH ELEVATIONS. A BENCHMARK SHALL BE SET WITHIN 50' HORIZONTALLY AND 12' VERTICALLY OF THE PROPOSED SEPTIC SYSTEM PRIOR TO CONSTRUCTION.
2. ALL WORK AND MATERIAL (SEPTIC TANK, DISTRIBUTION BOX, PIPE) SHALL CONFORM TO THE CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEM.
3. SEWER LINE FROM FOUNDATION WALL TO SEPTIC TANK SHALL BE 4" SCHEDULE 40 PVC – ASTM D 1785 AND JOINTS PER HEALTH DEPT. CODE.
4. GALLERIES SHALL BE SET LEVEL FOR ENTIRE LENGTH AND HAVE A CENTER TO CENTER SPACING OF 8 FEET.
5. PIPE FROM SEPTIC TANK TO DISTRIBUTION LINES SHALL BE 4" SOLID PVC CONFORMING TO ASTMD–3034 AND SDR–35.
6. PIPE FROM "D"–BOX TO LEACHING GALLERIES SHALL BE SOLID PVC FOR 2 FT.
7. THERE IS NO PROPOSED FOUNDATION/FOOTING DRAIN.
8. THERE ARE PRESENTLY NO KNOWN WATER WELLS WITHIN 75' OF THE PROPOSED SEPTIC SYSTEM.
9. CLEAR AND GRUB THE AREA WHERE THE SEPTIC SYSTEM AND HOUSE ARE TO BE CONSTRUCTED. ALL TOPSOIL IS TO BE STRIPPED AND STOCKPILED FOR FUTURE USE.
10. A BOTTOM OF EXCAVATION INSPECTION IS REQUIRED BY UNCAS HEALTH DISTRICT AFTER THE TOPSOIL IS REMOVED.
11. ALL FILL MATERIAL SHALL BE CLEAN EARTH FREE OF STUMPS, ORGANICS, CONSTRUCTION DEBRIS AND TOPSOIL.
12. TOPSOIL SHALL BE RE–APPLIED OVER ALL FILL AREAS AND ALL DISTURBED AREAS TO PROVIDE A MINIMUM DEPTH OF FOUR INCHES.
13. ALL EXISTING UTILITIES TO BE ACCURATELY LOCATED PRIOR TO CONSTRUCTION CALL BEFORE YOU DIG: 811.

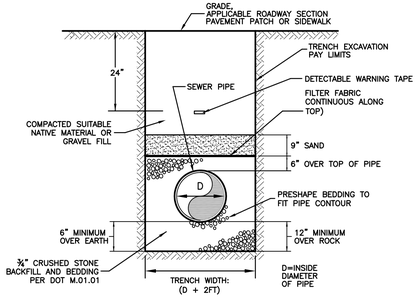
SELECT FILL SPECIFICATION

SELECT FILL PLACED WITHIN AND ADJACENT TO LEACHING SYSTEM AREAS SHALL BE COMPRISED OF CLEAN SAND, OR SAND AND GRAVEL, FREE FROM ORGANIC MATTER AND FOREIGN SUBSTANCES. THE SELECT FILL SHALL MEET THE FOLLOWING REQUIREMENTS PER THE CONNECTICUT PUBLIC HEALTH CODE FOR USE WITHIN THE LEACHING AREA:

1. THE SELECT FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN THE THREE (3) INCH SLEEVE.
2. UP TO 45% OF THE DRY WEIGHT OF THE REPRESENTATIVE SAMPLE MAY BE RETAINED ON THE #4 SLEEVE (THIS IS THE GRAVEL PORTION OF THE SAMPLE).
3. THE MATERIAL THAT PASSES THE #4 SIEVE IS THEN REWEIGHED AND THE SIEVE ANALYSIS STARTED.
4. THE REMAINING SAMPLE SHALL MEET THE FOLLOWING CRITERIA:

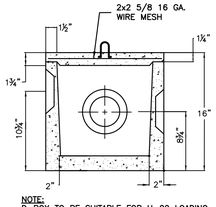
SIEVE SIZE	PERCENT PASSING WET SIEVE	DRY SIEVE
#4	100	100
#10	70–100	70–100
#40	10–50*	10–75
#100	0–20	0–5
#200	0–5	0–2.5

* PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%.



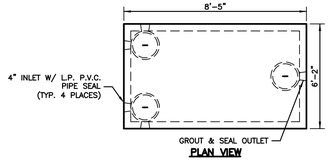
NOTES:
1. D=INSIDE DIAMETER OF PIPE.
2. TRENCH WIDTHS NOTED ARE SET TO ESTABLISH PAY LIMITS ONLY.
3. ALL EXCAVATIONS MUST MEET OSHA STANDARDS.
4. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL.

TRENCH DETAIL: SANITARY SEWER PIPE
NOT TO SCALE

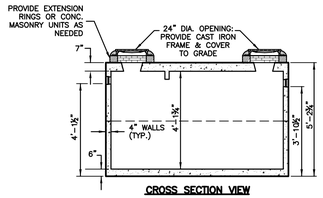


NOTE:
D–BOX TO BE SUITABLE FOR H–20 LOADING

STANDARD D-BOX DETAIL
NOT TO SCALE



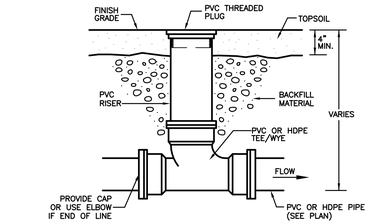
PLAN VIEW



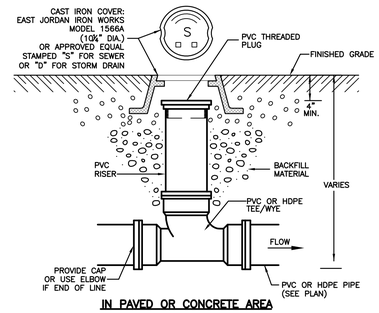
CROSS SECTION VIEW

NOTE:
1. INTERIOR OF TANK TO BE COATED WITH EPOXY PETROLEUM RESISTANT SEALANT THAT IS RESISTANT TO GASOLINE, OIL, AND SOLVENTS.
2. EXTERIOR OF TANK INCLUDING THE TOP, BOTTOM AND EXTENSION TO GRADE MANHOLES TO BE COATED WITH A WATER PROOF SEALANT.
3. SEAMS TO BE LOCATED ABOVE STATIC LIQUID LEVEL AND FILLED IN WITH A NON–SHRINKING CEMENT AND COATED WITH A WATER PROOF SEALANT.
4. VOIDS BETWEEN TANK WALLS AND INLET AND OUTLET PIPING TO BE GROUTED WITH NON–SHRINKING CEMENT AND COATED WITH A WATERPROOF SEALANT.
5. CONCRETE COVERS SHALL BE PERMANENTLY REMOVED FROM THE TANK.
6. TANK, EXTENSION RINGS, MASONRY UNITS, FRAMES AND COVERS TO BE RATED FOR HS–20 LOADING.
7. DIMENSIONS MAY VARY DEPENDING ON TANK MANUFACTURER.

1,000 GALLON HOLDING TANK
NOT TO SCALE

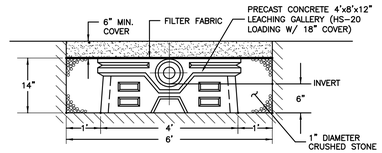


IN GRASS AREAS WITH NO TRAFFIC LOADING

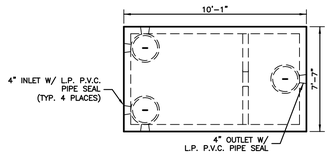


IN PAVED OR CONCRETE AREA

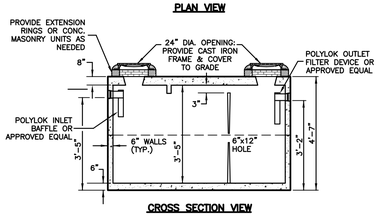
TYPICAL CLEAN-OUT DETAIL
NOT TO SCALE



12"x48" HEAVY DUTY CONCRETE GALLEY DETAIL
NOT TO SCALE



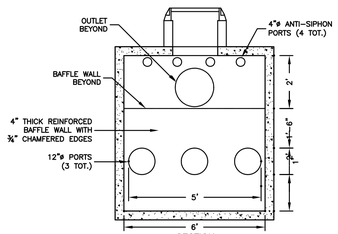
PLAN VIEW



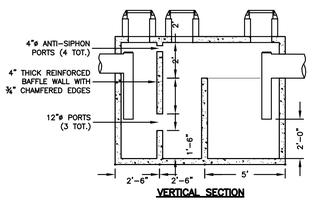
CROSS SECTION VIEW

NOTES:
1. TANK, EXTENSION RINGS, MASONRY UNITS, FRAMES AND COVERS TO BE RATED FOR HS–20 LOADING.
2. CONC. COMPRESSIVE STRENGTH SHALL BE 4,000 PSI MIN AT 28 DAYS WITH 4–7% AIR ENTRAINMENT.
3. DIMENSIONS MAY VARY DEPENDING ON TANK MANUFACTURER
4. TANKS SHALL MEET THE REQUIREMENTS OF SECTION 5 OF THE PUBLIC HEALTH CODE.

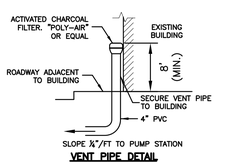
1,250 GALLON HEAVY DUTY SEPTIC TANK
NOT TO SCALE



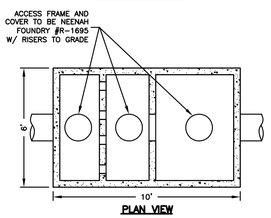
SECTION



VERTICAL SECTION



VENT PIPE DETAIL



PLAN VIEW

NOTE:
1. INTERIOR OF SEPARATOR TANK TO BE COATED WITH EPOXY PETROLEUM RESISTANT SEALANT THAT IS RESISTANT TO GASOLINE, OIL, AND SOLVENTS.
2. EXTERIOR OF SEPARATOR INCLUDING THE TOP, BOTTOM AND EXTENSION TO GRADE MANHOLES TO BE COATED WITH A WATER PROOF SEALANT.
3. SEAMS TO BE LOCATED ABOVE STATIC LIQUID LEVEL AND FILLED IN WITH A NON–SHRINKING CEMENT AND COATED WITH A WATER PROOF SEALANT.
4. VOIDS BETWEEN SEPARATOR WALLS AND INLET AND OUTLET PIPING TO BE GROUTED WITH NON–SHRINKING CEMENT AND COATED WITH A WATERPROOF SEALANT.
5. CONCRETE COVERS SHALL BE PERMANENTLY REMOVED FROM THE SEPARATOR.
6. TANK IS TO BE VENTED AT THE BUILDING. 8' MIN. FROM EXISTING GRADE TO VENT OUTLET.
7. TANK, EXTENSION RINGS, MASONRY UNITS, FRAMES AND COVERS TO BE RATED FOR HS–20 LOADING.

1,000 GALLON OIL SEPARATOR TANK
NOT TO SCALE

NUMBER	DATE	REVISION
1	3-1-16	Misc. Revisions for Permit

TOWN OF VOLUNTOWN
PUBLIC WORKS GARAGE
96 GATE STREET, VOLUNTOWN, CT
Construction Details

CLA Engineers, Inc.
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(860) 886–1966 Fax (860) 886–9165
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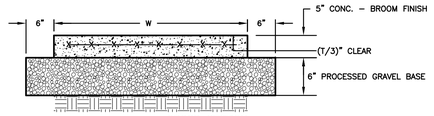
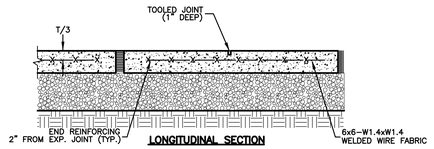
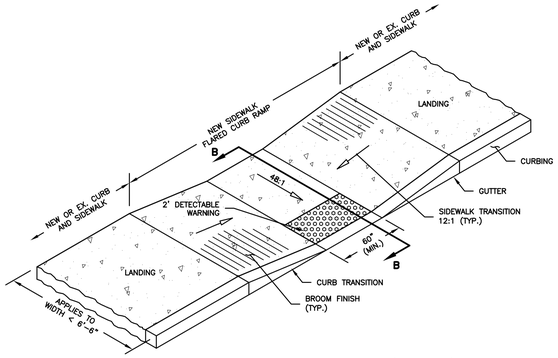
CLA PROJECT NO. CLA-15-5598
PROJ. ENGINEER R.A.D.
DATE: 02/26/16
SHEET NO. C-5



CROSS SECTION

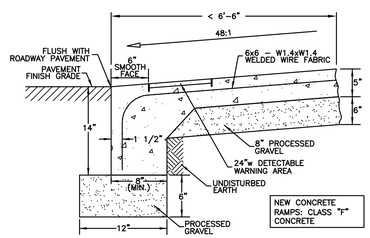


LONGITUDINAL SECTION



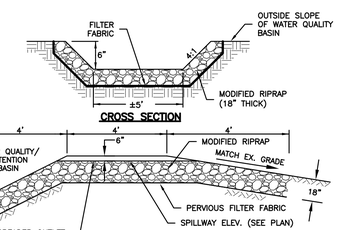
PARALLEL SIDEWALK RAMP (TYPE 1)

NOT TO SCALE



CURB RAMP SECTION B-B

NOT TO SCALE

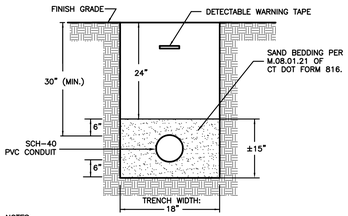


CROSS SECTION

PROFILE

WATER QUALITY/RETENTION BASIN OUTLET

NOT TO SCALE

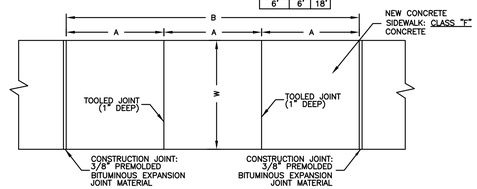


NOTES:
1. TRENCH WIDTHS NOTED ARE SET TO ESTABLISH PAY LIMITS ONLY.
2. ALL EXCAVATIONS MUST MEET OSHA STANDARDS.
4. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL.
5. MAINTAIN 2" SEPARATION BETWEEN MULTIPLE CONDUIT TRENCHES

TYPICAL CONDUIT TRENCH DETAIL

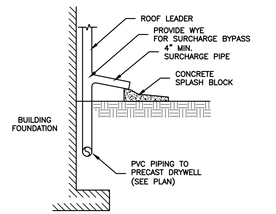
NOT TO SCALE

WIDTH W	A	B
3'	3'	9'
4'	4'	12'
5'	5'	15'
6'	6'	18'



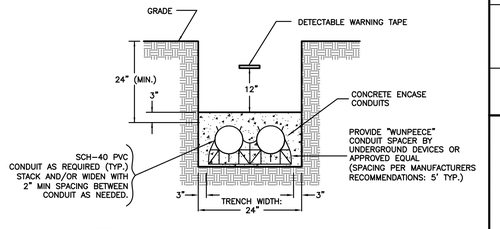
CONCRETE WALK & JOINT DETAIL

NOT TO SCALE



ROOF LEADER DETAIL

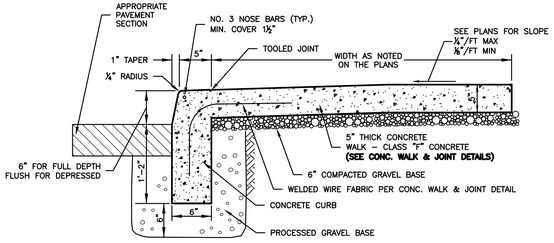
NOT TO SCALE



NOTES:
1. TRENCH WIDTHS NOTED ARE SET TO ESTABLISH PAY LIMITS ONLY.
2. ALL EXCAVATIONS MUST MEET OSHA STANDARDS.
4. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL.
5. FOR USE WHERE THERE IS LESS THAN 30" OF COVER AVAILABLE

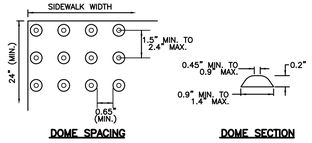
CONDUIT DUCT BANK (CONC. ENCASED) DETAIL

NOT TO SCALE



SINGLE POUR CONCRETE CURB & SIDEWALK

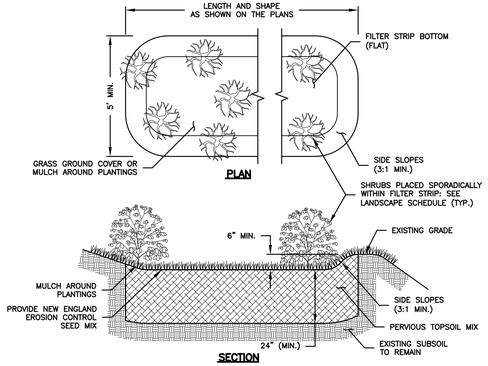
NOT TO SCALE



DOME SPACING DOME SECTION

DETECTABLE WARNING STRIP

NOT TO SCALE



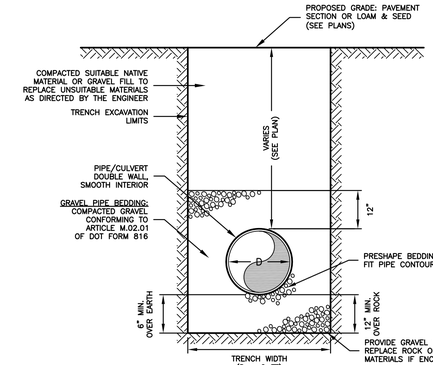
SECTION

NOTES:
1. PERVIOUS TOPSOIL MIX SHALL MEET THE REQUIREMENTS OF DOT FORM 816, ARTICLE M.13.01.1 WITH THE GRADATION SPECIFIED HEREIN.
2. EXCAVATE FILTER STRIP TO THE GRADES SPECIFIED WITH SIDEWALLS AS NEAR TO VERTICAL AS POSSIBLE. INSTALL PERVIOUS TOPSOIL MIX. DO NOT COMPACT TOPSOIL MIX.
3. SEED MIX SHALL CONFORM THE REQUIREMENTS SPECIFIED IN THE VEGETATIVE COVER NARRATIVE HEREIN.
4. INSTALL SHRUBS AND ALL PLANTINGS IN CONFORMANCE WITH THE CONSTRUCTION DETAILS AND LANDSCAPING NOTES HEREIN.

MAINTENANCE:
1. MOW BOTTOM 2–3 TIMES PER YEARS, AS NEEDED.
2. REPLENISH MULCH AROUND PLANTINGS AS NEEDED.
3. REMOVE SEDIMENT AND LEAF LITTER TWICE YEARLY
   A. BETWEEN NOVEMBER 15 AND DECEMBER 15 (AFTER LEAF FALL)
   B. DURING APRIL (AFTER SNOW MELT)

TYPICAL DEPRESSED FILTER STRIP DETAILS

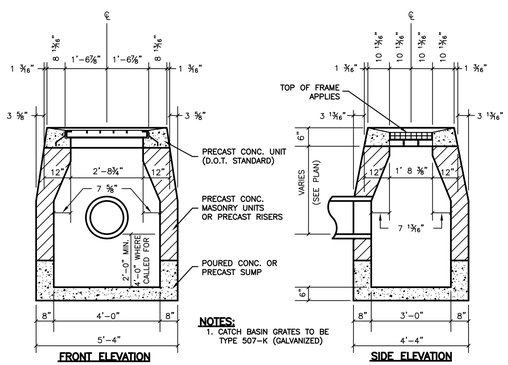
NOT TO SCALE



NOTES:
1. D=INSIDE DIAMETER OF PIPE/CULVERT.
2. TRENCH WIDTHS NOTED ARE SET TO ESTABLISH PAY LIMITS ONLY.
3. ALL EXCAVATIONS MUST MEET OSHA STANDARDS.
4. CONTRACTOR TO PROVIDE COMPACTION ON ALL TRENCH BACKFILLS, EXCAVATIONS AND PAVEMENT BASES TO NOT LESS THAN 95% OF THE DRY DENSITY FOR THAT MATERIAL.

TRENCH DETAIL: DRAINAGE CULVERT

NOT TO SCALE



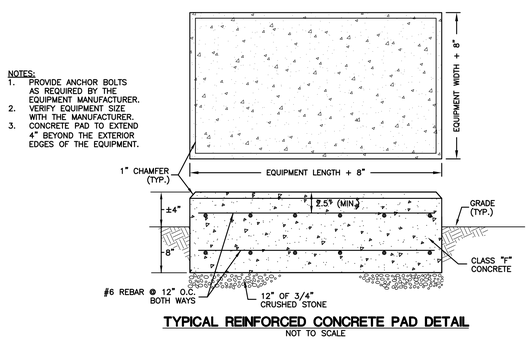
FRONT ELEVATION

SIDE ELEVATION

TYPE "C-L" CATCH BASIN DETAIL

NOT TO SCALE

NOTES:
1. CATCH BASIN GRATES TO BE TYPE 507–K (GALVANIZED)



TYPICAL REINFORCED CONCRETE PAD DETAIL

NOT TO SCALE

NO.	DESCRIPTION	DATE
1	Misc. Revisions for Permit	3-1-16

TOWN OF VOLUNTOWN
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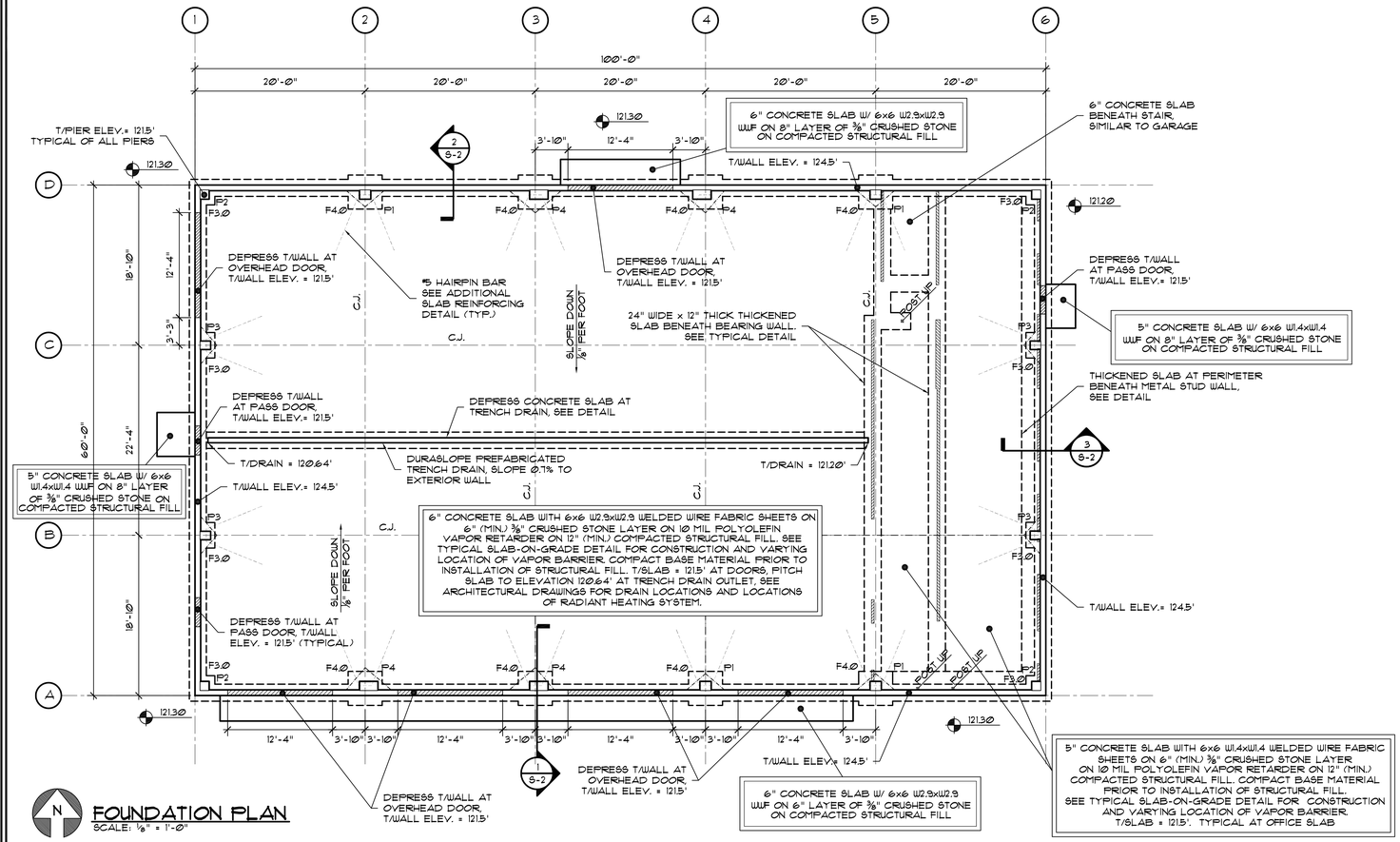
CLA PROJECT NO. CLA-15-5598
PROJ. ENGINEER R.A.D.
DATE: 02/26/16
SHEET NO. C-6



FOUNDATION PLAN

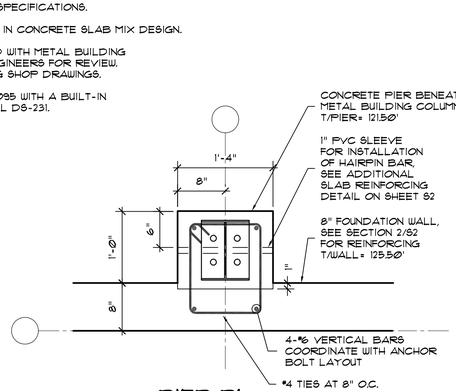
SCALE: ⅛" = 1'-0"

NOTES:

1. BOTTOM OF FOOTING ELEVATION SHALL BE A MINIMUM OF 3'-6" BELOW FINISH GRADE.
2. "C.J." INDICATES CONTROL JOINT IN SLAB ON GRADE - SEE DETAIL.
3. "T/WALL ELEV" INDICATES TOP OF WALL ELEVATION.
4. TYPICAL T/WALL ELEVATION= 124.50' UNLESS OTHERWISE NOTED.
   TYPICAL T/SLAB ELEVATION= 121.50' UNLESS OTHERWISE NOTED.
   TYPICAL T/PIER ELEVATION= 121.50' UNLESS OTHERWISE NOTED.
5. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
6. SPOT GRADES SHOWN ARE APPROXIMATE. REFER TO SITE DRAWINGS FOR ACTUAL PROPOSED TOPOGRAPHY.
7. APPLY SIKAGARD 62 BROADCAST OVERLAY EPOXY COATING OVER NEW CONCRETE SURFACE. ALLOW SUFFICIENT TIME FOR CURING PER MANUFACTURER'S SPECIFICATIONS.
8. FIBERMESH 150 MICRO-REINFORCEMENT SYSTEM SHALL BE INCLUDED IN CONCRETE SLAB MIX DESIGN.
9. PIER SIZES AND PIER REINFORCING LAYOUT SHALL BE COORDINATED WITH METAL BUILDING MANUFACTURER. SUBMIT METAL BUILDING SHOP DRAWINGS TO CLA ENGINEERS FOR REVIEW. SIZE OF PIERS MAY INCREASE FOLLOWING REVIEW OF METAL BUILDING SHOP DRAWINGS.
10. PREFABRICATED TRENCH DRAIN SHALL BE DURASLOPE MODEL DS-095 WITH A BUILT-IN SLOPE OF 0.7%. TRENCH DRAIN GRATE SHALL BE DURASLOPE MODEL DS-231.

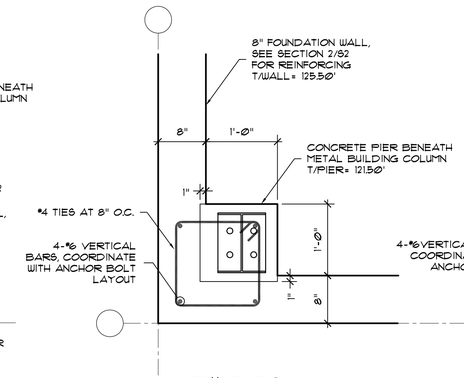
FOOTING SCHEDULE

FOOTING	FOOTING DIMENSIONS	BOTTOM REINFORCING
F3.0	3'-0" x 3'-0" x 12"	(3) #5 BARS EA. WAY
F4.0	4'-0" x 4'-0" x 12"	(4) #5 BARS EA. WAY



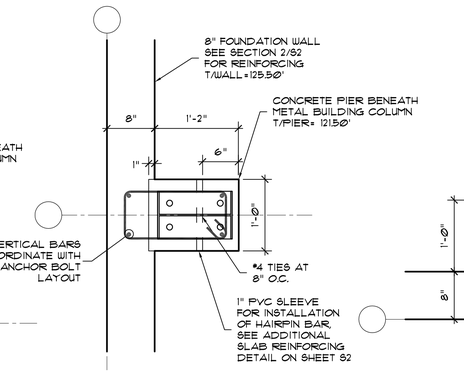
PIER P1

SCALE: 1" = 1'-0"



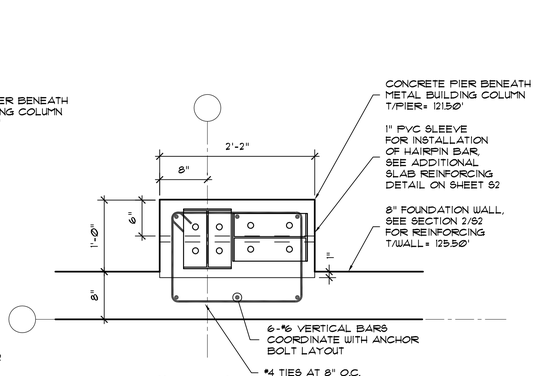
PIER P2

SCALE: 1" = 1'-0"



PIER P3

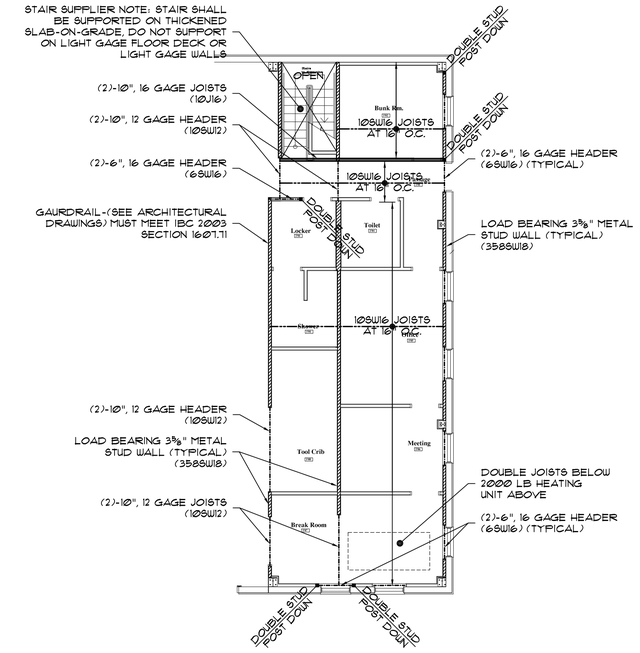
SCALE: 1" = 1'-0"



PIER P4

SCALE: 1" = 1'-0"

NOTE:
1. PIER SIZES AND PIER REINFORCING LAYOUT SHALL BE COORDINATED WITH METAL BUILDING MANUFACTURER. SUBMIT METAL BUILDING SHOP DRAWINGS TO CLA ENGINEERS FOR REVIEW. SIZE OF PIERS MAY INCREASE FOLLOWING REVIEW OF METAL BUILDING SHOP DRAWINGS.
2. COORDINATE PIER REINFORCING WITH ANCHOR BOLT LAYOUT.



MEZZANINE FRAMING PLAN

SCALE: ⅛" = 1'-0"

NOTES:

1. FLOOR DECK SHALL BE ¾" T&G PLYWOOD ON ⅝" 26 GAGE CORRUGATED METAL DECK. ATTACH TO JOISTS WITH #10 WINGED REAMER SCREWS AT 6" O.C., REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR CONFIGURATION.
2. ALL JOISTS SHALL HAVE WEB STIFFENERS AT ALL SUPPORTS AND MID SPAN BRIDGING.
3. SUBMIT JOIST AND STUD DATA FOR APPROVAL. MEZZANINE MUST BE CAPABLE OF SUPPORTING 125 PSF LIVE LOAD.
4. ALL JOISTS SHALL BE A MINIMUM OF 10", 16 GAGE, 2" FLANGE AT 16" O.C. (SIMILAR TO MARINOWARE 10J16). BRIDGING SHALL NOT EXCEED 7'-0" O.C.
5. TYPICAL DOOR HEADER SHALL BE 6", 16 GAGE, 1⅝ FLANGE (SIMILAR TO MARINOWARE 6SW16). INSTALL DOUBLE STUD EACH SIDE OF HEADER WITH A SPAN GREATER THAN 5'-0". INSTALL DOUBLE STUD EACH SIDE OF ALL HEADERS IN CENTER BEARING WALL.
6. TYPICAL WALL STUDS SHALL BE 3⅝", 18GAGE, 1⅝" FLANGE METAL STUDS AT 16" O.C. (SIMILAR TO MARINOWARE 358SW18). HORIZONTAL BRIDGING SHALL NOT EXCEED 5'-0" (VERTICAL)

REVISION	DATE	NUMBER

TOWN OF VOLUNTOWN
PUBLIC WORKS GARAGE
96 GATE STREET, VOLUNTOWN, CT

FOUNDATION & MEZZANINE FRAMING PLAN

CLA Engineers, Inc.
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www.claengineers.com

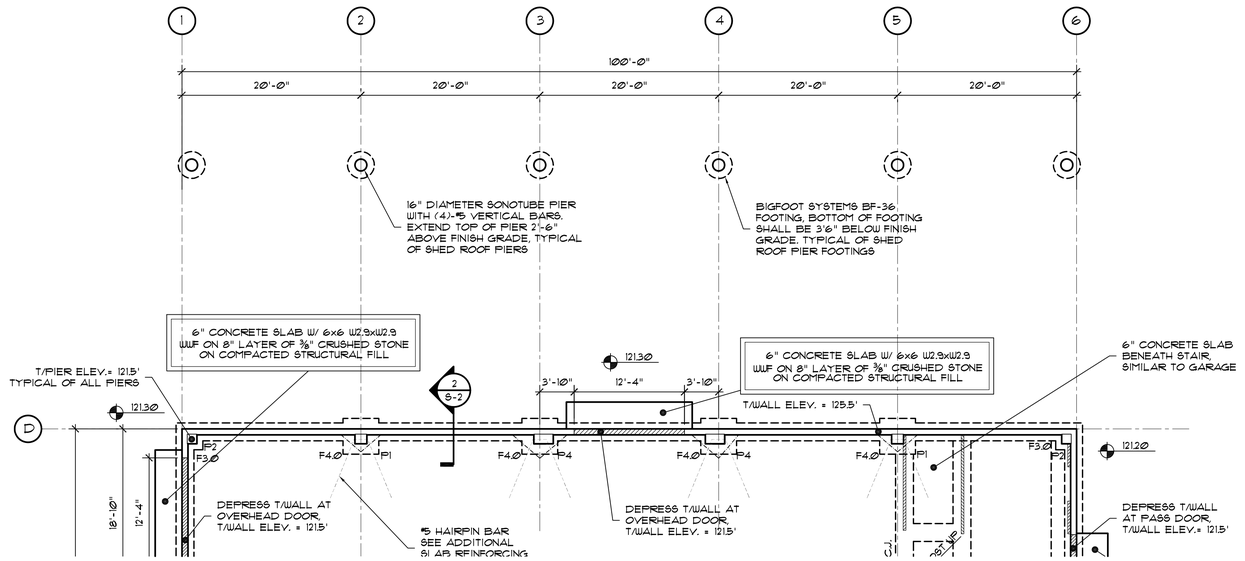
CLA PROJECT NO. CLA-15-5598
PROJ. ENGINEER C.E.D.
DATE: 04/13/16
SHEET NO. S-1

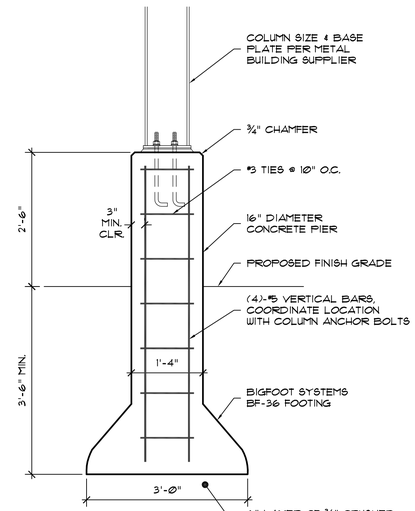
FOUNDATION PLAN

SCALE: ⅛" = 1'-0"

NOTES:

1. BOTTOM OF FOOTING ELEVATION SHALL BE A MINIMUM OF 3'-6" BELOW FINISH GRADE.
2. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
3. SPOT GRADES SHOWN ARE APPROXIMATE. REFER TO SITE DRAWINGS FOR ACTUAL PROPOSED TOPOGRAPHY.
4. PIER SIZES AND PIER REINFORCING LAYOUT SHALL BE COORDINATED WITH METAL BUILDING MANUFACTURER. SUBMIT METAL BUILDING SHOP DRAWINGS TO CLA ENGINEERS FOR REVIEW. SIZE OF PIERS MAY INCREASE FOLLOWING REVIEW OF METAL BUILDING SHOP DRAWINGS.





TYPICAL PIER DETAIL

SCALE: ¾" = 1'-0"

NUMBER	DATE	REVISION

TOWN OF VOLUNTOWN
PUBLIC WORKS GARAGE
96 GATE STREET, VOLUNTOWN, CT

ADD-ON ALTERNATE SHED ROOF

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www.claengineers.com

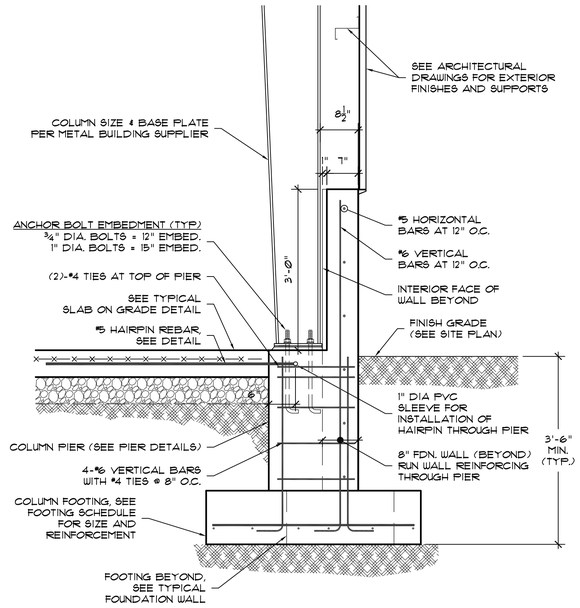
CLA PROJECT NO.
CLA-15-5598

PROJ. ENGINEER
C.E.D.

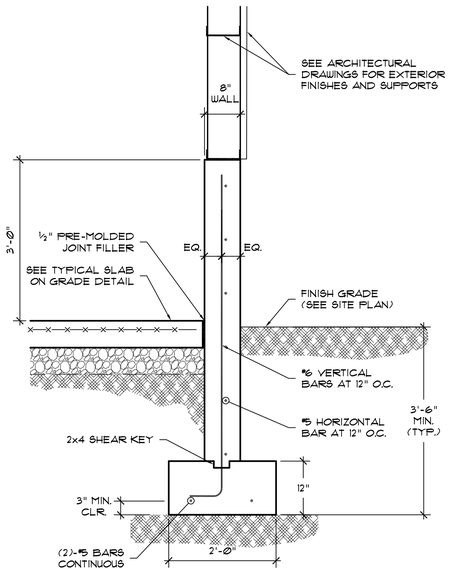
DATE:
04/13/16

SHEET NO.
S-2

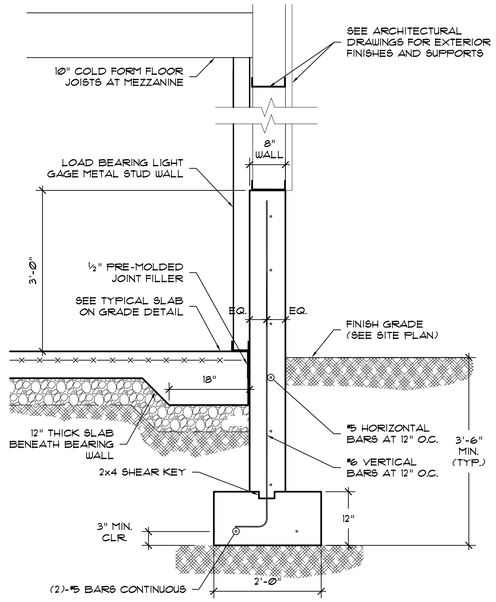
CLA



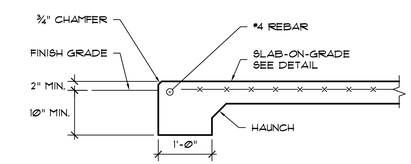
1 S-2 **FOUNDATION WALL SECTION AT PIER**
SCALE: ¾" = 1'-Ø"



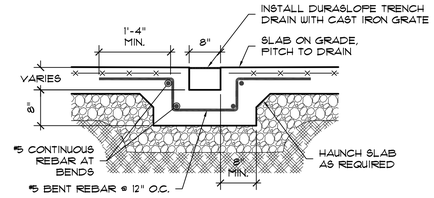
2 S-2 **TYPICAL FOUNDATION WALL SECTION AT GARAGE**
SCALE: ¾" = 1'-Ø"



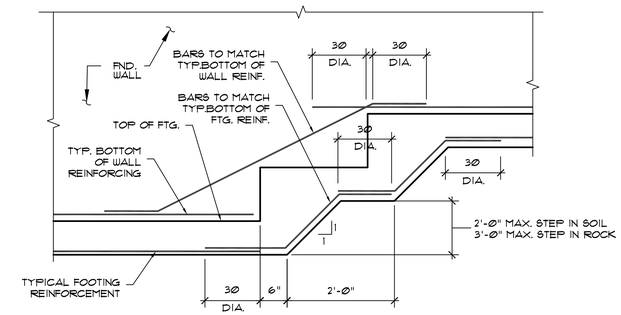
3 S-2 **TYPICAL FOUNDATION WALL SECTION AT OFFICE**
SCALE: ¾" = 1'-Ø"



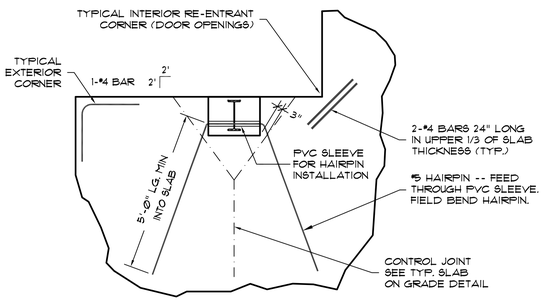
EDGE OF EXTERIOR SLAB
SCALE: ¾"= 1'-Ø"



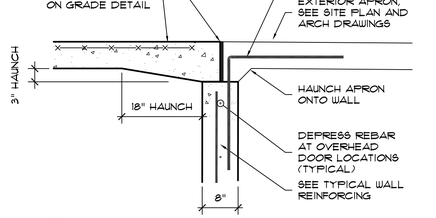
SECTION THROUGH TRENCH DRAIN
SCALE: ¾" = 1'-0"



TYPICAL STEPPED FOOTING DETAIL
SCALE: ¾"= 1'-Ø"

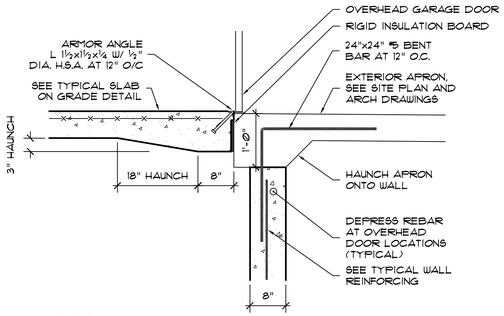


ADDITIONAL SLAB REINFORCING
NOT TO SCALE



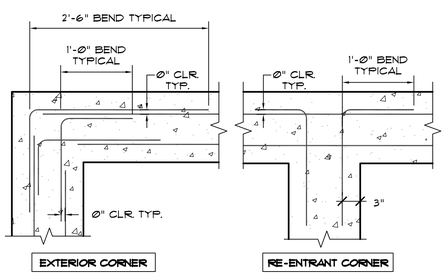
NOTE:
REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF RIGID INSULATION BOARD AND SLAB HAUNCH / TOP OF WALL CONFIGURATION

DETAIL AT PASS DOORS
SCALE: ¾" = 1'-0"

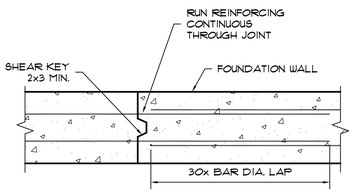


NOTE:
REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF RIGID INSULATION BOARD AND SLAB HAUNCH / TOP OF WALL CONFIGURATION

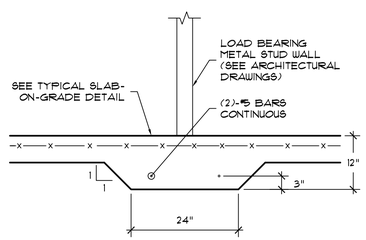
DETAIL AT OVERHEAD DOOR OPENING
SCALE: ¾" = 1'-0"



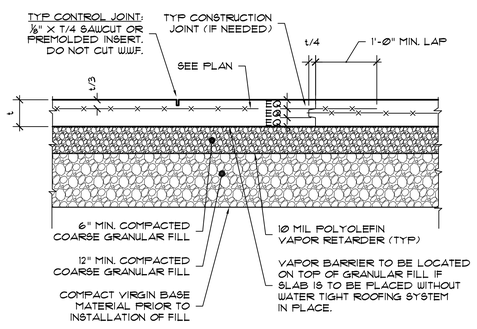
TYP. WALL CORNER REINFORCING
SCALE: 1" = 1'-Ø"



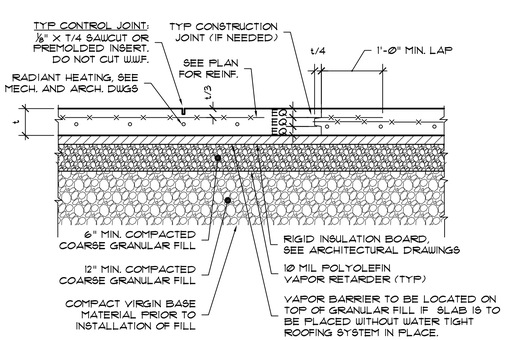
TYP. WALL CONSTRUCTION JOINT
SCALE: 1" = 1'-Ø" (WHERE REQUIRED BY CONSTRUCTION SEQUENCE)



TYPICAL THICKENED SLAB
SCALE: ¾" = 1'-Ø"



TYPICAL SLAB ON GRADE DETAIL
SCALE: 3/4" = 1'-Ø"



HEATED SLAB ON GRADE DETAIL
SCALE: 3/4" = 1'-Ø"

NUMBER	DATE	REVISION

TOWN OF VOLUNTOWN
PUBLIC WORKS GARAGE
96 GATE STREET, VOLUNTOWN, CT

STRUCTURAL DETAILS

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CLA PROJECT NO. CLA-15-5598
PROJ. ENGINEER C.E.D.
DATE: 04/13/16
SHEET NO. **S-3**

GENERAL STRUCTURAL NOTES

G1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2003 INTERNATIONAL BUILDING CODE, THE 2005 CONNECTICUT SUPPLEMENT, AND THE AMENDMENTS TO THE CONNECTICUT SUPPLEMENT INCLUDING 2013.

G2. THE OWNER/CONTRACTOR SHALL SUBMIT 2 COPIES MINIMUM OF SHOP DRAWINGS FOR ALL COMPONENTS OF THE PRIMARY STRUCTURAL SYSTEM FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD. THE OWNER/CONTRACTOR SHALL ALLOW A MINIMUM OF TWO(2) WEEKS FOR THE REVIEW BY THE STRUCTURAL ENGINEER OF RECORD.

G3. THE GENERAL CONTRACTOR SHALL BEAR SOLE RESPONSIBILITY FOR MEANS AND METHODS OF CONSTRUCTION AND SAFETY ON THE JOB SITE.

G4. ALL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE SHOWN FOR REFERENCE ONLY CONTRACTOR IS TO VERIFY ALL DIMENSIONS, ANGLES, ELEVATIONS, etc. PRIOR TO THE START OF CONSTRUCTION OR THE FABRICATION OF BUILDING COMPONENTS.

G5. THE GENERAL CONTRACTOR SHALL FURNISH COMPLETE SETS OF ARCHITECTURAL AND STRUCTURAL DRAWINGS TO ALL SUBCONTRACTORS FOR USE IN SHOP DRAWING PREPARATION.

G6. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND ARCHITECTURAL AND MECHANICAL DRAWINGS.

G7. CONTRACTOR SHALL IDENTIFY ALL EXISTING LOAD BEARING ELEMENTS PRIOR TO WORK AND SHALL DESIGN AND PROVIDE SHORING AS REQUIRED TO SUPPORT CONSTRUCTION.

REINFORCED CONCRETE

C1. GENERAL: ALL CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTES (ACI) " SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING" (ACI 301-95) AND "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-95).

C2. CONCRETE FOR FOUNDATIONS WALLS AND FOOTINGS:
f'c = 4000 PSI AT 28 DAYS
w/c RATIO = 0.47 (MAX) SLUMP = 4"
AIR ENTRAINMENT = 6%

CONCRETE FOR INTERIOR SLABS:
f'c = 3500 PSI AT 28 DAYS
SYNTHETIC FIBER REINFORCING = 1.5LB/CUBIC YARD
w/c RATIO = 0.53 (MAX)
SLUMP = 4"
AIR ENTRAINMENT = 3%

SUBMIT CONCRETE MIX DESIGN FOR APPROVAL PRIOR TO CONCRETE PLACEMENT.

C3. REINFORCING STEEL: ASTM A615 - GRADE 60. C4. BAR DETAILING: IN ACCORDANCE WITH THE "ACI DETAILING MANUAL - 1988". PLACING DRAWINGS SHALL SHOW THE NUMBER AND LOCATION OF ALL BAR SUPPORTS AND ACCESSORIES.

C4. MINIMUM DEVELOPMENT LENGTH AND LAP SPLICE LENGTH OF REINFORCING BARS SHALL BE AS FOLLOWS:

BAR SIZE	DEVELOPMENT LENGTH	LAP SPLICE LENGTH
#4	22"	28"
#5	28"	36"
#6	33"	43"
#7	39"	50"
#8	44"	57"
#9	50"	65"

INCREASE BAR DEVELOPMENT LENGTH BY 50% FOR EPOXY COATED REBAR.

C5. CONCRETE COVER SHALL BE AS FOLLOWS:
CONCRETE PLACED AGAINST EARTH..... 3"

CONCRETE PLACED IN FORMS
BUT EXPOSED TO EARTH/WEATHER:
#5 BARS AND SMALLER ..... 1½"
#6 BARS AND LARGER ..... 2"

C6. WHERE WELDED WIRE FABRIC IS USED, SHEETS SHALL BE SUPPORTED ON CLASS 3 SUPPORTS WITH SAND PLATES IN SUFFICIENT QUANTITY TO MAINTAIN THE FABRIC'S LOCATION IN THE SLAB. PRECAST CONCRETE BLOCK/BRICK SHALL NOT BE USED.

C7. THE CONTRACTOR SHALL FURNISH, LOCATE AND INSTALL ALL ACCESSORIES FOR PROPER ANCHORAGE OF STEEL FRAMING. HE SHALL BE SOLELY RESPONSIBLE FOR FURNISHING, LOCATING, AND ENSURING PROPER QUANTITY OF FASTENING DEVICES.

C8. WHEN INSTALLING EXPANSION OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS.

FOUNDATION / SOILS

F1. FOUNDATION ELEMENTS SHALL BE DESIGNED FOR THE FOLLOWING ALLOWABLE BEARING CAPACITIES.

ALLOWABLE SOIL BEARING PRESSURE = 3000PSF

F2. THE FOOTINGS MAY FALL IN BEDROCK WHERE BLASTING IS NECESSARY, THE BEDROCK SHOULD BE BLASTED TO A DEPTH OF AT LEAST 2 FEET BELOW THE FOOTINGS AND SLABS ON GRADE. PREPARATION OF THE BLASTED ROCK SURFACE FOR FOOTINGS WILL INCLUDE EXCAVATING THE ROCK SUFFICIENTLY TO PERMIT PLACEMENT OF A MINIMUM 8" LAYER OF ⅜" CRUSHED STONE BENEATH THE FOOTINGS AND SLABS ON GRADE. THE ⅜" STONE LAYER SHALL BE COMPACTED WITH A VIBRATORY ROLLER TO FILL THE FRACTURES IN THE ROCK AND TO PROVIDE A UNIFORMLY STIFF SURFACE TO RECEIVE FOOTINGS AND SLABS. LARGE PIECES OF LOOSE BLASTED ROCK SHOULD BE REMOVED AND REPLACED WITH ⅜" CRUSHED STONE AND PROOF ROLLED. A PRECONDITION BLAST SURVEY SHALL BE MADE FOR ANY PROPERTIES THAT MAY BE AFFECTED BY BLASTING.

F3. CONCRETE SLABS ON GRADE:

A 6" LAYER OF SOUND, DURABLE ⅜" CLEAN CRUSHED STONE SHALL BE PLACED IMMEDIATELY BENEATH THE SLAB-ON-GRADE. BENEATH THE CRUSHED STONE LAYER, STRUCTURAL FILL SHALL BE PLACED AS REQUIRED AFTER REMOVAL OF ANY EXISTING FILL AND ORGANIC MATERIALS.

F4. STRUCTURAL FILL MATERIAL SHALL CONSIST OF PREDOMINATELY GRANULAR SOIL WITH THE FOLLOWING GRADATION:

PERCENT PASSING	SIEVE SIZE
100	3.5"
50-100	¾"
25-75	#4
0-10	#200

F5. COMPACTION: ALL FILL MATERIAL SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM "MODIFIED" OPTIMUM DRY DENSITY (ASTM 1557-D) IN 8" THICK LOOSE LIFTS.

F6. SEE ARCHITECTURAL DRAWINGS FOR WATERPROOFING REQUIREMENTS.

F7. WHERE THE GROUNDWATER TABLE IS ENCOUNTERED, A MINIMUM OF 6" OF ⅜" CRUSHED STONE SHALL BE PLACED UNDER FOOTINGS.

F8. ALL FOOTINGS SHALL BE BELOW UNSUITABLE EXISTING FILLS AND ORGANIC MATERIALS.

F9. ALL EXCAVATION WORK SHALL CONFORM TO OSHA 29CFR 1926 SUBPART P-EXCAVATIONS.

F10. ESTIMATED ELEVATIONS OF BOTTOM OF FOOTINGS ARE AS SHOWN ON FOUNDATION PLANS AND ARE APPROXIMATE. THESE ELEVATIONS SHALL BE ADJUSTED TO ACTUAL LEVELS OF APPROVED BEARING STRATA FOUND UPON EXCAVATION. ANY UNUSUAL CONDITIONS SHALL BE CALLED TO THE ATTENTION OF THE STRUCTURAL ENGINEER.

F11. DO NOT BACKFILL FOUNDATION UNTIL FIRST FLOOR DECK IS INSTALLED OR UNTIL ADEQUATE TEMPORARY SHORES ARE INSTALLED.

F12. UNSUITABLE FILLS ARE CONSIDERED UNSUITABLE IF THEY CONTAIN LARGE BOULDERS OR ORGANIC MATERIALS AND CAN NOT BE COMPACTED TO A MINIMUM OF 92% DRY DENSITY.

F13. VAPOR BARRIER SHALL BE POLYOLEFIN HAVING A MINIMUM THICKNESS OF 10 MILS (.010); FREE OF PINHOLES AND OTHER BLEMISHES, AND ALL JOINTS SHALL BE LAPPED 12" AND TAPED.

METAL DECK

D1. DECK PROPERTIES ARE BASED ON PRODUCTS MANUFACTURED BY UNITED STEEL DECK, INC. (USD). DECKS BY OTHER MANUFACTURERS MAY BE SUPPLIED PROVIDED SECTION PROPERTIES ARE WITHIN 5% OF THOSE SPECIFIED AND IF APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.

D2. INSTALL IN ACCORDANCE WITH STEEL DECK INSTITUTE (SDI) SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE DRAWINGS. INDIVIDUAL SHEETS SHALL EXTEND OVER AT LEAST FOUR SUPPORTS (3 SPANS), WITH LAPS TO BE PLACED OVER SUPPORTS. IN NO CASE SHALL THERE BE LESS THAN 2 SPAN CONTINUOUS.

D3. DECK SUPPLIER SHALL PROVIDE ALL ADDITIONAL FRAMING TO SUPPORT DECK AT OPENINGS THROUGH DECK AND ALL CLOSURE ANGLES AND PLATES WHERE REQUIRED TO RESULT IN A COMPLETE INSTALLATION.

D4. METAL DECK FASTENING SHALL BE AS FOLLOWS:

9/16" 26 GA. FORM DECK SHALL HAVE ⅝" DIA. PUDDLE WELDS THRU WELD WASHERS TO EA. SUPPORT PER 36/5 WELD PATTERN. FASTEN SIDE LAPS WITH #10 TEK SCREWS AT MID SPAN.

USE WELDING WASHER FOR DECK MATERIAL LESS THAN 22 GA. AND WHERE RECOMMENDED BY DECK MANUFACTURE

D5. FLOOR DECK SHALL HAVE A MINIMUM YIELD POINT, F_y = 80 KSI AND CONFORM TO ASTM A446 OR A611, GRADE E. FLOOR DECK GALVANIZING TO CONFORM TO ASTM A525 G60 COATING. MINIMUM DECK PROPERTIES:

MIN. METAL THICKNESS = 26 ga.

PROFILE TYPE = 9/16" FORM DECK
4
I = 0.015 in /ft
3
Sp = 0.043 in /ft

STEEL FLOOR DECK SHALL SPAN OVER A MINIMUM OF TWO SPANS. INSTALLATION OF METAL DECK AND ACCESSORIES SHALL BE DONE IN ACCORDANCE WITH THE "SDI MANUAL OF CONSTRUCTION WITH STEEL DECK".

LIGHT GAGE FRAMING

1. ALL STUDS, JOISTS AND ACCESSORIES SHALL HAVE A MINIMUM G-60 GALVANIZED COATING, IN CONFORMANCE WITH THE REQUIREMENTS OF ASTM-525.

2. ALL GALVANIZED JOISTS AND STUDS 18 GAGE AND LIGHTER, AND ALL TRACK ACCESSORIES 16 GAGE AND LIGHTER, SHALL BE FORMED FROM STEEL THAT CONFORMS TO THE REQUIREMENTS OF ASTM A-446 GRADE A, WITH A MINIMUM YIELD OF 33 KSI. ALL JOISTS AND STUDS 16 GAGE THICK OR HEAVIER, AND ALL TRACK AND ACCESSORIES 14 GAGE AND HEAVIER, SHALL CONFORM TO THE REQUIREMENTS OF ASTM-A446 GRADE D WITH A MINIMUM YIELD OF 50 KSI.

3. ALL WALL STUDS ARE "C" SHAPED STRUCTURAL LOAD BEARING STEEL STUDS. PROVIDE RUNNER TRACK TOP AND BOTTOM FOR ALL WALLS USING SAME GAGE

4. ALL WALLS ARE TO HAVE HORIZONTAL STRAP BRIDGING WHICH SHALL BE INSTALLED AND PROPERLY ATTACHED TO EACH STUD TO PREVENT MINOR AXIS BENDING AND ROTATION BEFORE WALL STUDS ARE LOADED. BRIDGING SHALL BE DESIGNED FOR MINIMUM ALLOWABLE CONSTRUCTION LOADS AND SHALL NOT EXCEED 5'-0" O.C. VERTICAL.

5. ALL FLOORS ARE TO HAVE HORIZONTAL STRAP BRIDGING WHICH SHALL BE INSTALLED AND PROPERLY ATTACHED TO EACH JOIST TO PREVENT MINOR AXIS BENDING AND ROTATION. BRIDGING SHALL BE DESIGNED FOR MINIMUM ALLOWABLE CONSTRUCTION LOADS AND SHALL NOT EXCEED 7'-0" O.C.

6. ALL NON-LOAD BEARING PARTITIONS SHALL INCORPORATE A DEFLECTION TRACK.

7. INSTALL DOUBLE STUD AT WALL OPENINGS, DOOR JAMBS, AND WINDOW JAMBS. PROVIDE BOXED HEADERS OVER ALL EXTERIOR WINDOWS AND DOOR OPENINGS.

8. ALL JOISTS SHALL BE "C" SHAPE. INSTALL DOUBLE JOISTS AT ALL FLOOR OPENINGS AND AT PERIMETER OF FLOOR.

9. ALL FASTENERS CONNECTING LIGHT GAGE MEMBERS AND ACCESSORIES SHALL BE A MINIMUM OF NO. 10 SIZE HAVING A MINIMUM DIAMETER OF .190 INCHES. USE A MINIMUM OF TWO FASTENERS AT EACH LOCATION OR MORE WHERE SPECIFIED.

10. ALL FASTENERS CONNECTING LIGHT GAGE MEMBERS TO STRUCTURAL STEEL SHALL BE POWER DRIVEN FASTENERS OF 0.145 INCHES DIAMETER MINIMUM. ALL FASTENERS OF LIGHT GAGE MEMBERS TO CONCRETE SHALL BE POWER DRIVEN FASTENERS OF 0.145 INCHES DIAMETER MINIMUM WITH A EMBEDMENT OF 1-1/4 INCH. FASTENERS CONNECTING TRACK TO STRUCTURAL STEEL OR CONCRETE SHALL BE SPACED AS NOTED ON PLANS AND DETAILS BUT AT 16 INCHES ON CENTER MAXIMUM.

11. STRUCTURAL PROPERTIES OF COMPONENTS SHALL BE COMPUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE A.I.S.I. SPECIFICATIONS.

12. ALL TRACKS NOT SPECIFICALLY CALLED FOR ON PLAN SHALL BE OF THE SAME GAGE AS THE WALL STUDS OR HEAVIER.

13. SHOP DRAWINGS FOR COLD FORMED METAL FRAMING SHALL BE DESIGNED WITH CALCULATIONS CLEARLY MARKED, STAMPED AND SIGNED BY FABRICATOR'S PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN CONNECTICUT. SUBMIT SHOP DRAWINGS FOR COMPONENTS AND INSTALLATIONS OF COLD FORMED FRAMING. INCLUDE PLACING DRAWINGS FOR ALL FRAMING MEMBERS AND ALL PREFABRICATED COMPONENTS SHOWING SIZE AND GAUGE DESIGNATIONS, NUMBER, TYPE, LOCATION AND SPACING. INDICATE STRAPPING, BRACING, SPLICES, BRIDGING, STIFFENERS, ACCESSORIES, CONNECTIONS, AND DETAILS REQUIRED FOR PROPER INSTALLATION. REPRODUCED COPIES OF CONSTRUCTION DRAWINGS IS NOT ACCEPTABLE.

14. FRAMING MEMBER DESIGN IS BASED ON LIGHT GAGE PRODUCTS MANUFACTURED BY MARINOWARE. LIGHT GAGE PRODUCTS BY OTHER MANUFACTURERS MAY BE SUPPLIED PROVIDED SECTION PROPERTIES ARE WITHIN 5% OF THOSE SPECIFIED AND IF APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.

SPECIAL INSPECTION

1. THE OWNER WILL ENGAGE A TESTING AGENCY AND A SPECIAL INSPECTOR TO PROVIDE SERVICES AS INDICATED ON THE STATEMENT OF SPECIAL INSPECTION AS REQUIRED BY THE 2003 IBC THE TESTING LABORATORY SHALL NOTIFY THE STRUCTURAL ENGINEER OF RECORD IMMEDIATELY (WITH IN 24 HRS) OF ANY TESTING/INSPECTION RESULTS WHICH DO NOT COMPLY WITH THE CONTRACT DRAWINGS.

DESIGN LOADS TABLE

FLOOR LIVE LOADS		
OCCUPANCY OR USE	UNIFORM LOAD (PSF)	CONCENTRATED LOAD (LBS)
COMMERCIAL SLAB-ON-GRADE	125	N/A
MEZZANINE LEVEL	125	1,000
ROOF LIVE LOADS (SNOW)		
GROUND SNOW LOAD (Pg)	30 PSF	
FLAT ROOF SNOW LOAD (Pf)	30 PSF	
SNOW EXPOSURE FACTOR (Ce)	0.9	
IMPORTANCE FACTOR (Is)	1.0	
THERMAL FACTOR (Ct)	1.0	
WIND LOADS		
BASIC WIND SPEED (3-SEC)	110 MPH	
IMPORTANCE FACTOR (Iw)	1.0	
WIND EXPOSURE	B	
INTERNAL PRESSURE COEFFICIENT	+/- 0.18	
COMPONENTS & CLADDING	PER EQUATION 16-35 OF IBC 2003 - TABLE 1609.6.2.1(2)	
SEISMIC (EARTHQUAKE) LOADS		
IMPORTANCE FACTOR (Ie)	1.0	
MAPPED SPECTRAL RESPONSE ACCELERATION Ss S1	 0.262 0.079	
SITE CLASSIFICATION	D	
SPECTRAL RESPONSE COEFFICIENT Sds Sd1	 0.279 0.126	
SEISMIC DESIGN CATEGORY	B	
BASIC SEISMIC FORCE RESISTING SYSTEM	ORDINARY STEEL MOMENT FRAMES	
DESIGN BASE SHEAR	6.99K	
SEISMIC RESPONSE COEFFICIENT (Cs)	0.07	
RESPONSE MODIFICATION FACTOR (R)	3.0	
ADDITIONAL LOADS		
ROOF FRAMING SHALL BE DESIGNED FOR FUTURE INSTALLATION OF PHOTOVOLTAIC SOLAR PANELS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE, LOCATION, AND LOADING. AT A MINIMUM, DESIGN FOR A 10 PSF UNIFORM LOAD FOR THE SOLAR PANELS.		

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TOWN OF VOLUNTOWN
PUBLIC WORKS GARAGE
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STRUCTURAL NOTES

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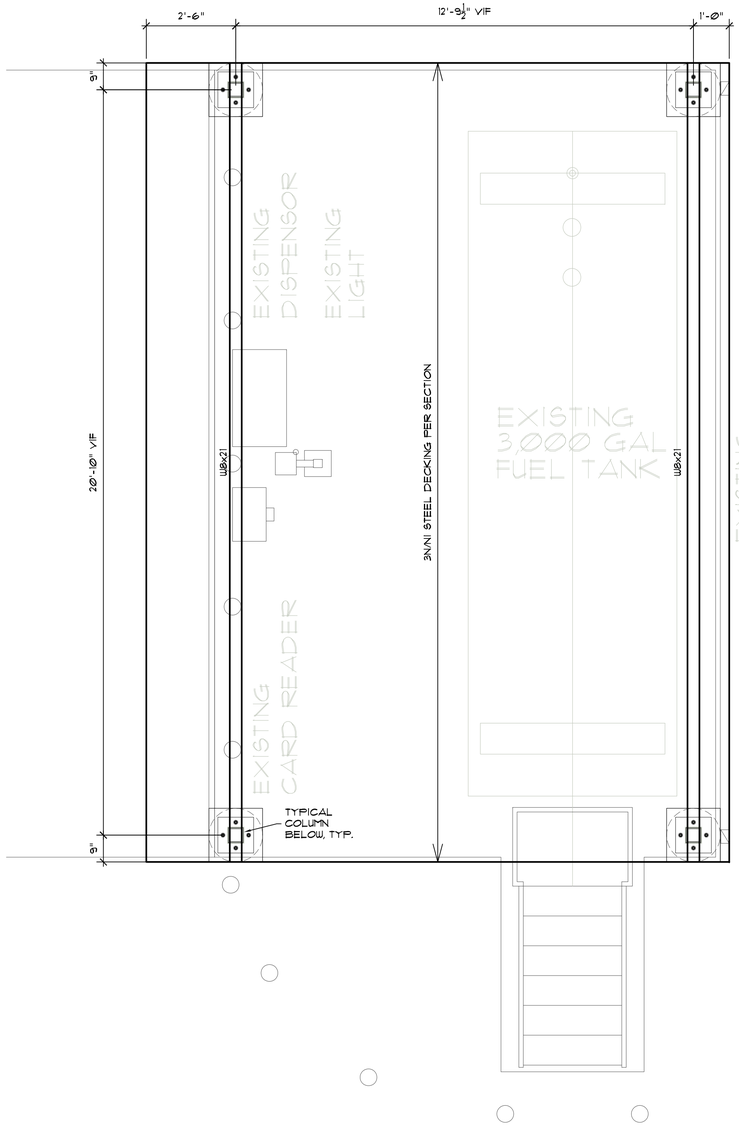
CLA PROJECT NO.
CLA-15-5598

PROJ. ENGINEER
C.E.D.

DATE:
04/13/16

SHEET NO.
S-4

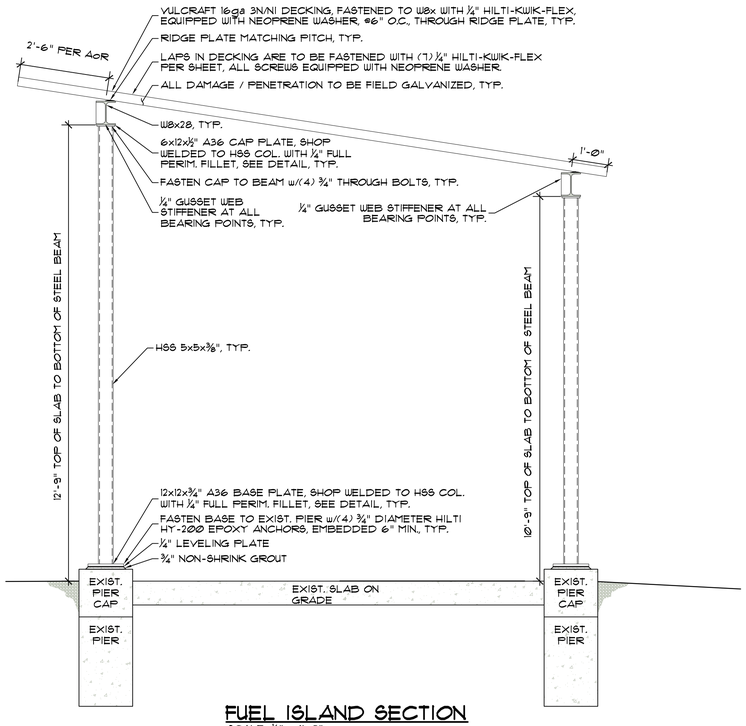
CLA



LAYOUT PLAN

SCALE: ½" = 1'-Ø"

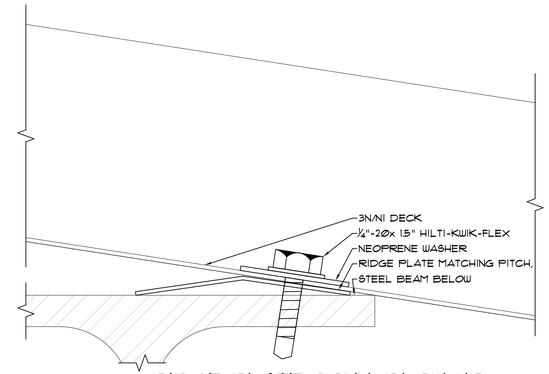
NOTE: SEE AOR's LATEST LAYOUT PLAN FOR UPDATES



FUEL ISLAND SECTION

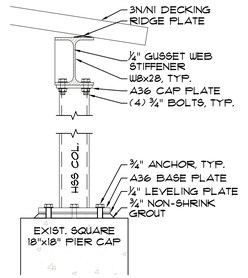
SCALE: ¼" = 1'-Ø"

NOTE UNLESS NOTED OTHERWISE (UNO) ALL EXPOSED STEEL IS TO BE HOT DIPPED GALVANIZED (HDG)



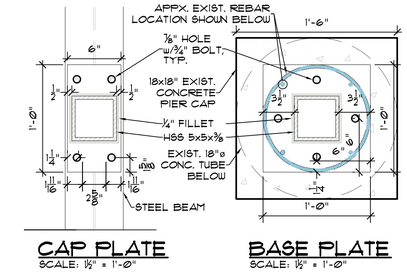
RIDGE PLATE CONN. BLOW-UP

SCALE: 1" = 1"



CONN. DETAILS

SCALE: 1" = 1'-Ø"



CAP PLATE

SCALE: ½" = 1'-Ø"

BASE PLATE

SCALE: ½" = 1'-Ø"

NOTE:
SEE STRUCTURAL NOTES ON SHEET S-4 FOR FULL STRUCTURAL REQUIREMENTS AND RELEVANT SPECIFICATIONS.

REVISION | DATE | NUMBER

TOWN OF VOLUNTOWN
PUBLIC WORKS GARAGE
96 GATE STREET, VOLUNTOWN, CT

FUEL ISLAND STRUCTURAL PLAN

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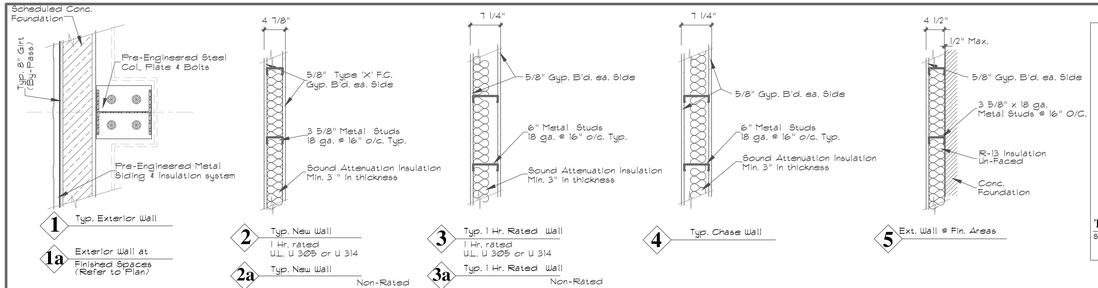
CLA PROJECT NO. CLA-15-5598

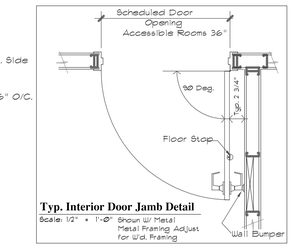
PROJ. ENGINEER ADB

DATE: 2016-06-13

SHEET NO. FIS-1

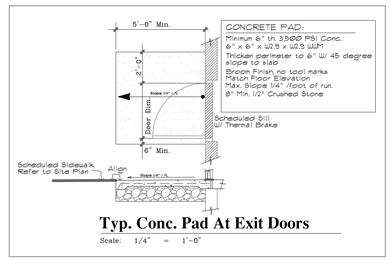
CLA





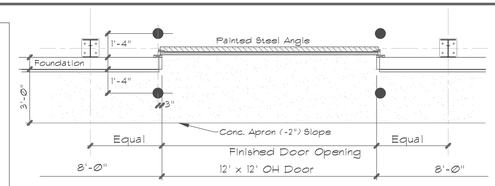
Typ. Interior Door Jamb Detail

Scale: 1/2" = 1'-0" Shown W/ Metal Metal Framing Adjust for W/d. Framing



Typ. Conc. Pad At Exit Doors

Scale: 1/4" = 1'-0"



Typ. Garage Door Plan Detail

Scale: 1/4" = 1'-0"

General Building Requirements:

Compliance to 2012 International Energy Conservation Code (IECC) Chapter 4: Commercial Energy Efficiency

TABLE C402.1.2 Opaque Thermal Envelope Assembly Requirements

Climate Zone	5 and Marine 4
Roofs	
Metal Buildings	U-0.035 R -28
Walls Above Grade	
Metal Buildings	U-0.052 R - 19.2
Floors	
Mass	U-0.074 R-13.5
Slabs on Grade	
Unheated	F-0.073

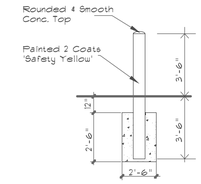
TABLE C402.1 Opaque Thermal Envelope Requirements

Climate Zone	5 and Marine 4
Roofs	
Metal Buildings W/ R-5 thermal block	R-19 R-11 L5
Wall Above Grade	
Metal Buildings	R-13 + R-13ci
Slab-on Grade Floors	
Unheated	N/R
Opaque Doors	
Swing Doors	U-0.37
Roll-up or Sliding	R 4.74

TABLE C402.2 Building Envelope Requirement-Opaque Assemblies

Standing Seam Metal Roof: R 5 Thermal Spacer block is placed above the Purlin Batt, and roof deck secured to Purlins

NOTE: Metal Building Manufacture / Supplier to provide 2012 IECC Energy Analysis on the finished building design for record.



Exterior Pipe Bollards:
8" dia. Scheduled 40 Galvanized Steel (G 90), 7'-0" Long, 42" Above Grade, W/ 2 #5 Reinforcement Rods and Concrete Fill 3,500 Pc and rounded top. Base Set in Concrete 16" dia. x 30" high. Bollard Painted Safety Yellow

Door Bollard Detail

No Scale:

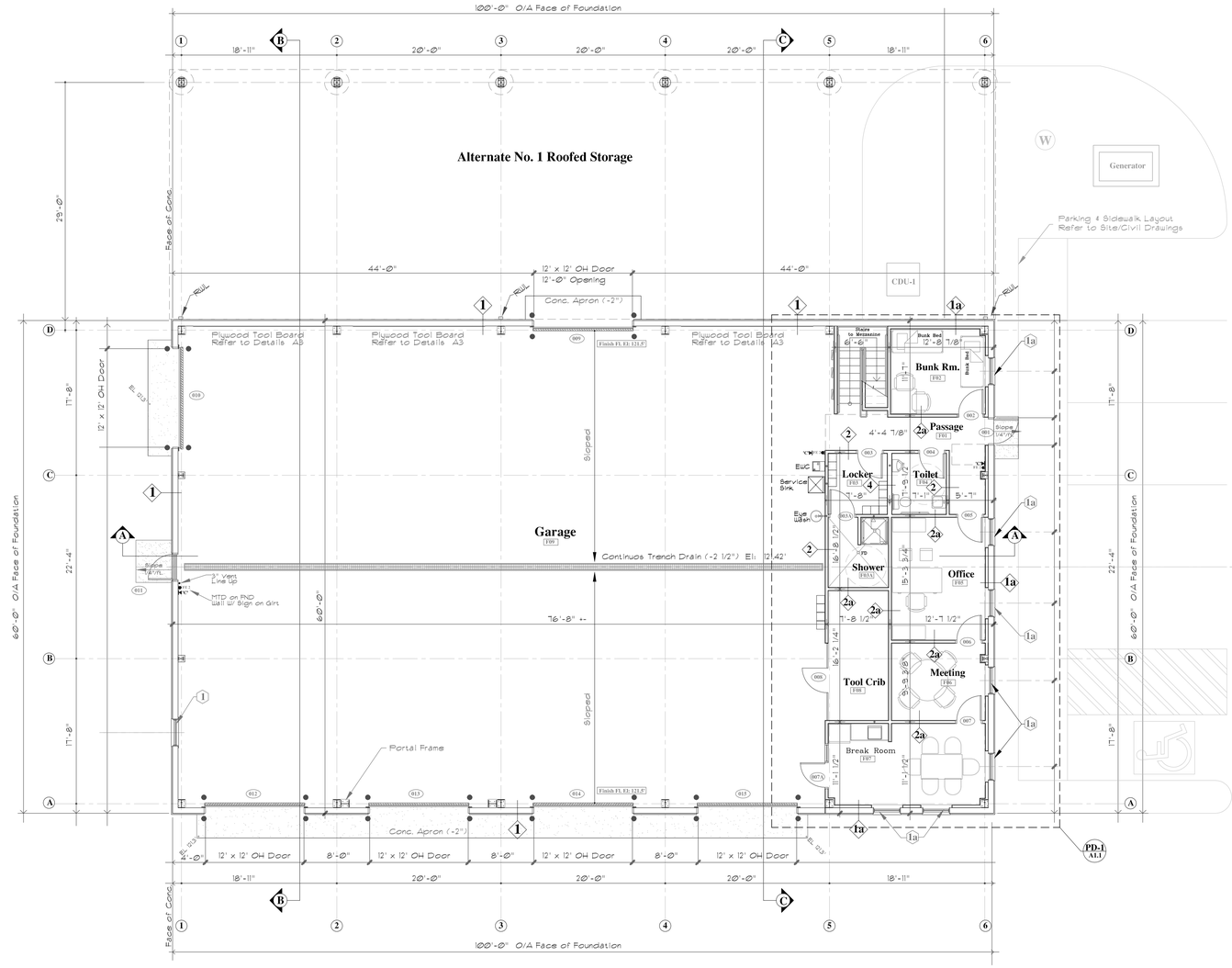
Wall Types

No Scale: Metal Cold Formed Studs:

- All studs, joist and accessories shall have a Minimum G-60 galvanized coating, in conformance with the requirements of ASTM-525. All Galvanized Studs shall be 18 ga. and lighter and all track, accessories 16 ga. and lighter shall be formed from steel that conforms to the requirements of ASTM A-446 Grade A, with a minimum yield of 33 KSI, all studs at ga. thick or heavier, and all track and accessories 14 ga. and heavier, shall conform to the requirements of ASTM-A446 Grade D with a minimum yield of 50 KSI.
- All Galvanized Studs are 'C' shaped structural load bearing steel studs.
- Provide runner tracks top and bottom for all walls using same gauge as studs.

Sound Attenuation Insulation:

Equal to JM Min-Wool Attenuation Fire Batts (SAFB) Min. 3" thickness ASTM E84 & ASTM E 136
Studs: Friction Fit Batts
Joist Slope / Horizontal: Held in place W/ Support Wires at 24" O/C Max.



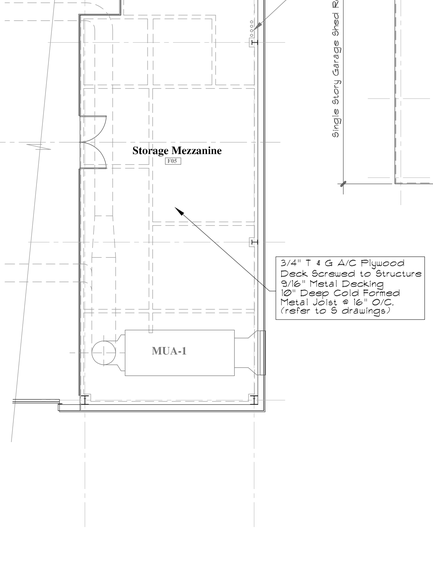
Architectural First Floor Plan

Scale: 1/8" = 1'-0"

Plan North

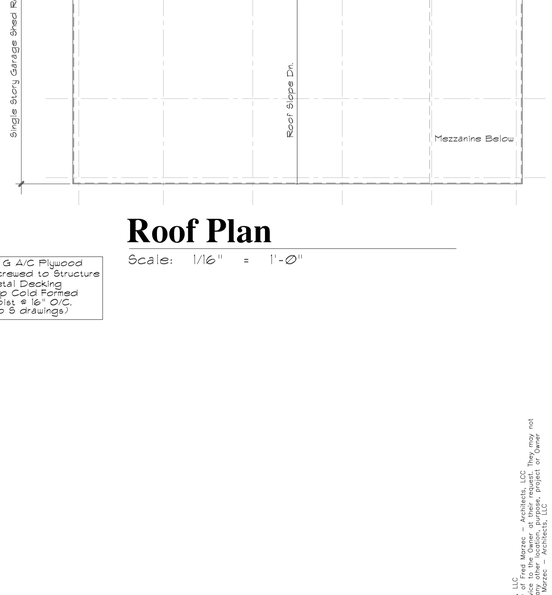
Building Footprint = 6,000 (5,778 sf Inside of Exterior Wall) GSF
Office Area: Bunkroom, Office, Breakroom, Meeting, = 583 SF SF
Circulation: Passage = 115 SF
Accessory Use Area: Toilet, Locker / Shower/ Tool Crib = 278 SF

Mezzanine = 1,081 SF [5,778 / 1,080]= (18.7 % of Building Footprint)
Occupancy Count:
Garage = 4,594 SF / 500 = 9 + 1 in Crib & 1 In Office = 11 Total



Mezzanine Level Plan

Scale: 1/8" = 1'-0"



Roof Plan

Scale: 1/16" = 1'-0"

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Norwich, CT 06360
Tel: (860) 887-5870 Fax: (860) 887-5874
Email address: fred@fredmarzec.com

Date

Revisions:

Town of Voluntown Public Works Garage

96 Gate Street
Voluntown, CT.

Floor & Mezzanine Plan
Roof Plan
Wall Types
Misc. Details

PROJECT NO.: 2015-10-08

SCALE: AS NOTED

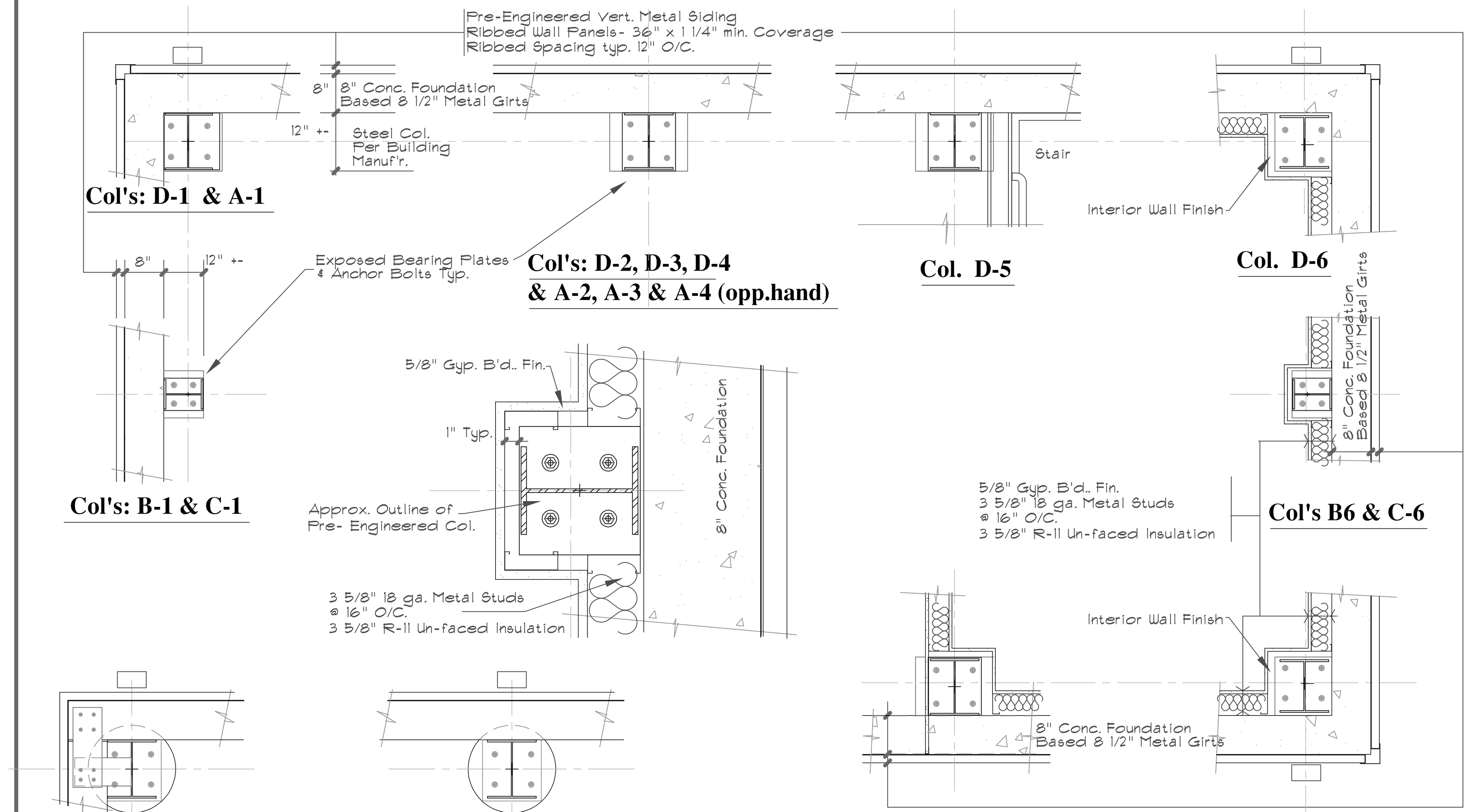
DRAWN BY: FRED M.

CHECKED BY:

DATE: Revised March 20, 2018

A1

SHEET _ OF _



Col's: D-1 & A-1

Col's: D-2, D-3, D-4 & A-2, A-3 & A-4 (opp.hand)

Col. D-5

Col. D-6

Col's: B-1 & C-1

Col's B6 & C-6

Col's: E-1 & E-6 opp. hand

Col's: E-2, E-3, E-3, & E-5

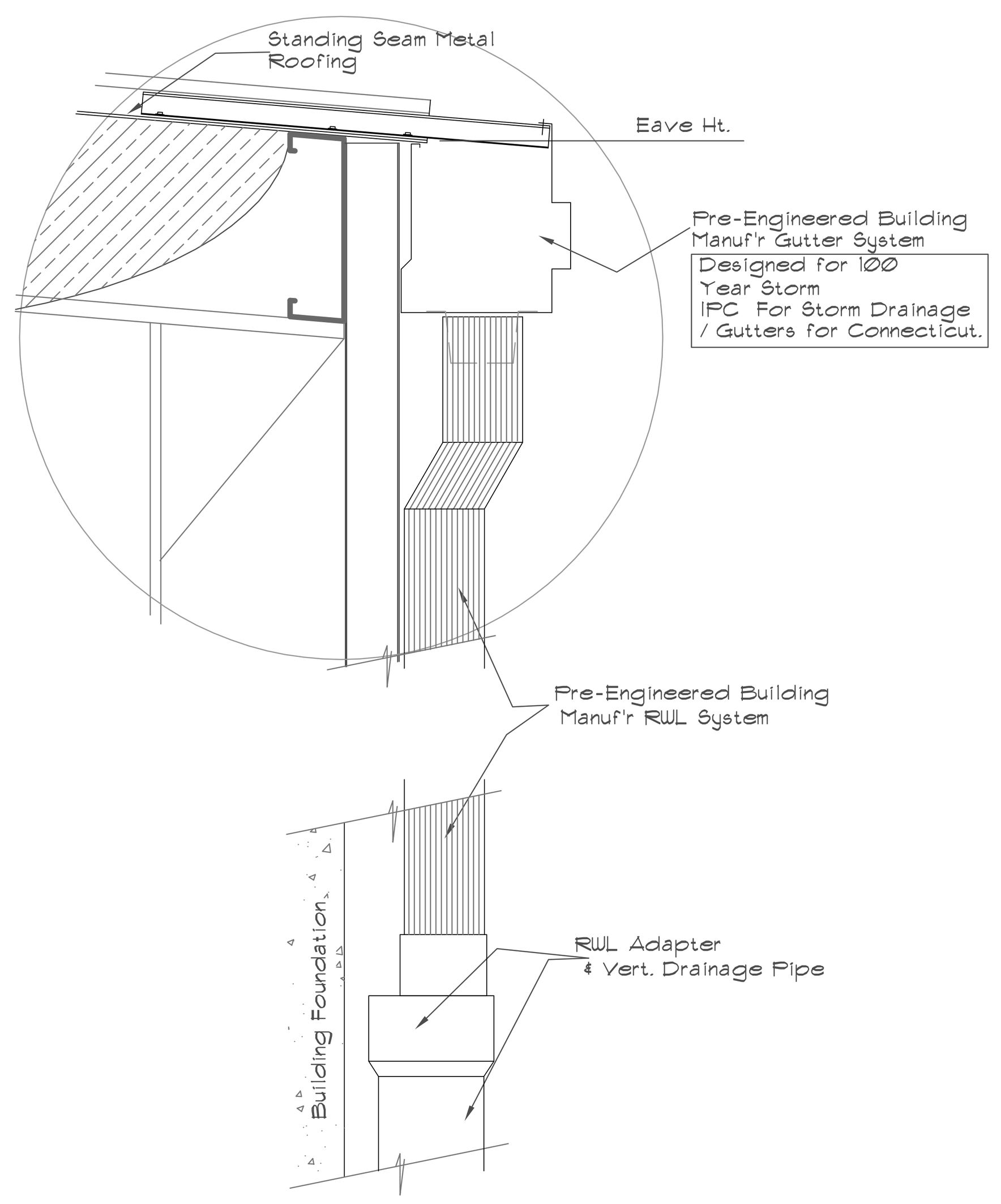
Col. A-5

Col. A-6

Plan Details at Columns

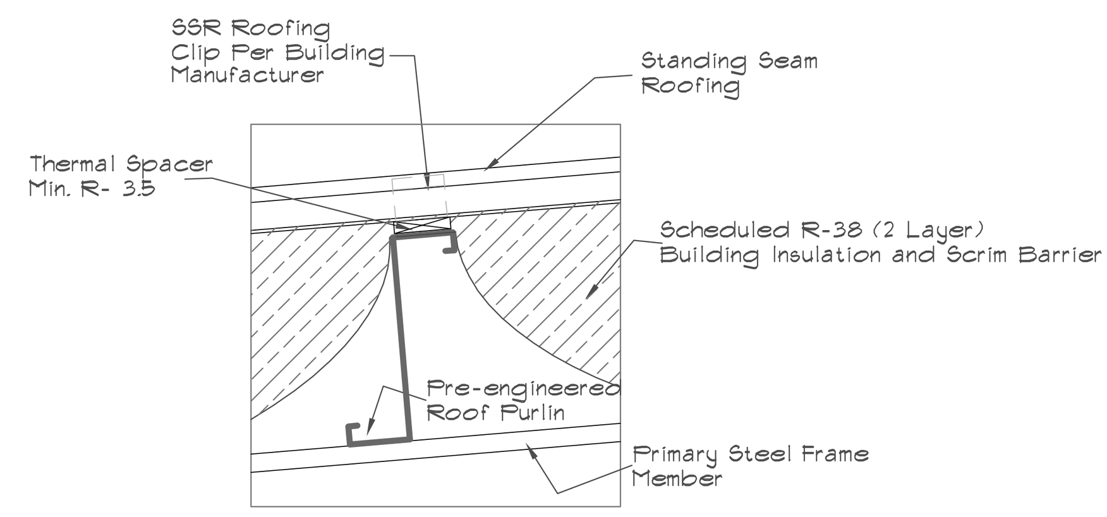
Scale: 1/2" = 1'-0"

Fin. Floor El: 212.5'



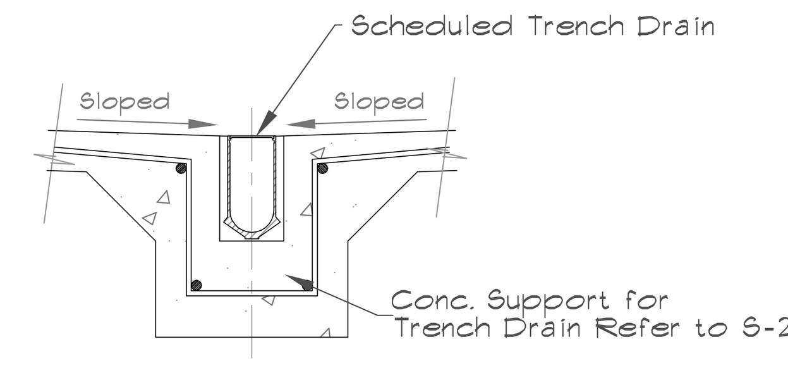
Gutter & RWL Detail

Scale: 1 1/2" = 1'-0"



Thermal Spacer Block

Scale: 1 1/2" = 1'-0"



Trench Drain Detail

No Scale:

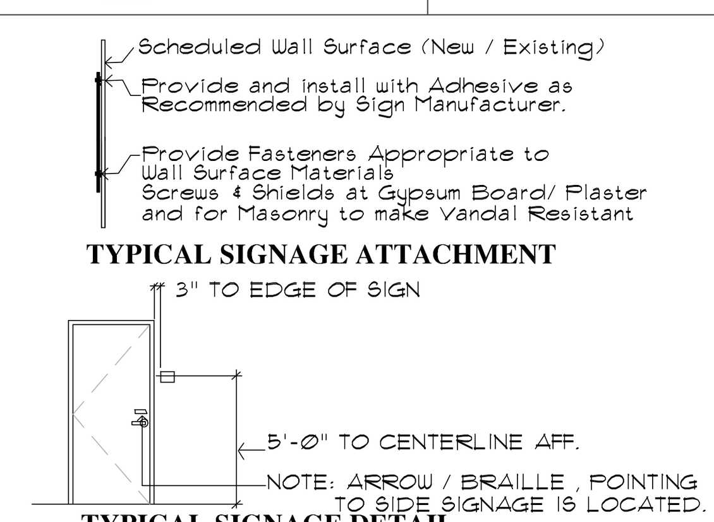
Portable Fire Extinguishers:

Type	Symbol	Class & Rating	Signage
FE-1	Wall MTD	Class 'K' 2A:K 2.5 gal. B-260 33.5 lbs	'C'
FE-2	Wall MTD	Class 'ABC' 2A:B:C 10 lbs.	'C'

Portable Fire Extinguishers shall be installed in accordance with IBC 2003 Chapter 9 Section 906

Signage Scheduled

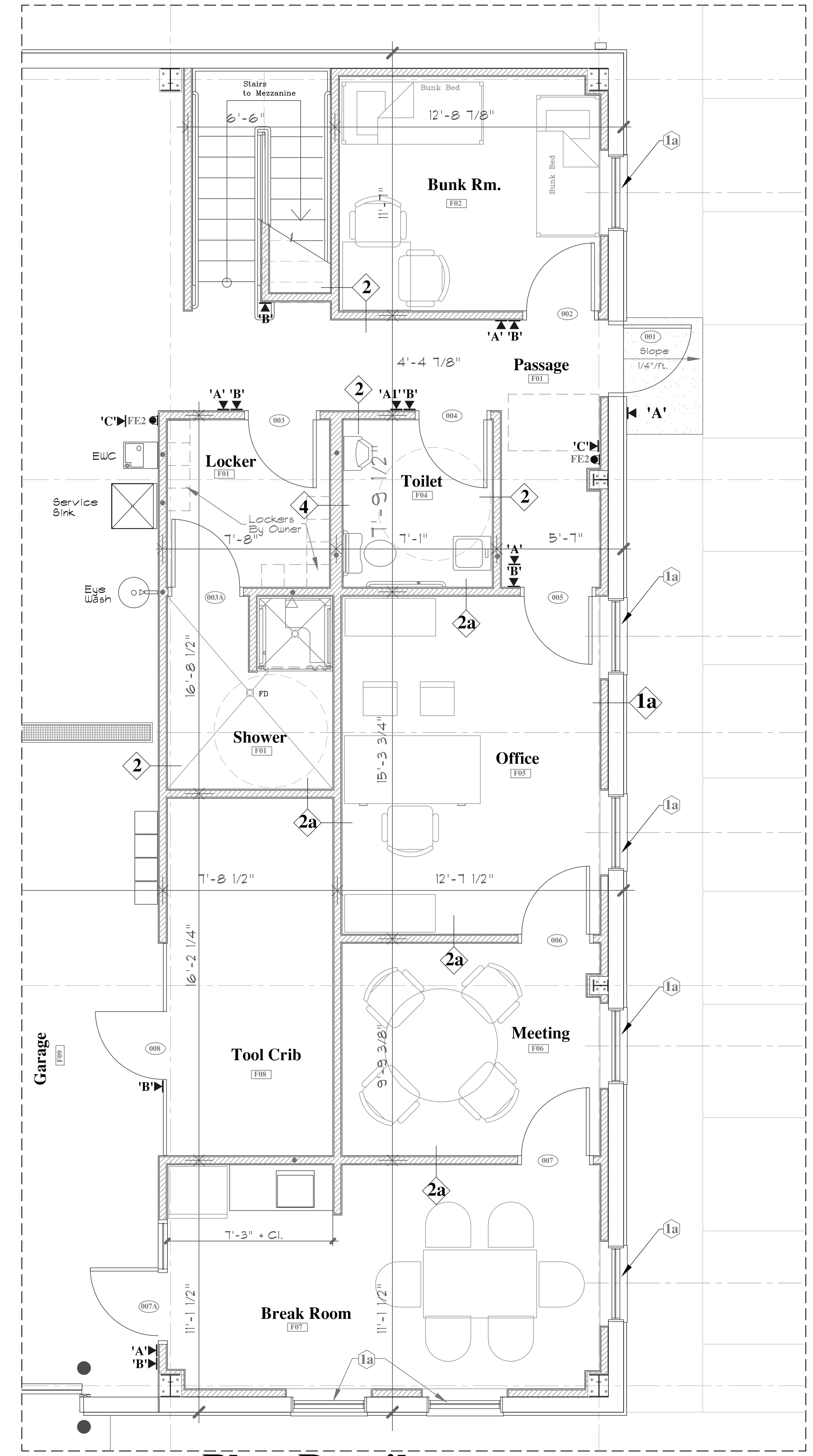
Symbol	Type	Manufacturer Model Number
'A'	6" x 9" ADA Blue	Equal to Seton 45059
'A1'	7 1/2" x 7 1/2"	Equal to Seton 54496 Color Selected by Owner
'A2'	7 1/2" x 7 1/2"	Equal to Seton 54499 Color Selected by Owner
'B'	Room Name 2" x 8" Tactile & Braille Refer to Floor Plan & Owner for correct Name / No.	Equal to Seton 12205 Series Color Selected by Owner
'C'	Fire Extinguisher Sign 10 1/2" w x 24" H Two Sided Sign Luminous	Equal to Seton 84496
'D'	8" x 8"	Equal to Seton 17422
'E'	8" x 8"	Equal to Seton 17482
'F'	8" x 8"	Equal to Seton 44982



TYPICAL SIGNAGE DETAIL

For paired door place on active leaf side
Where insufficient latch side clearance exists, contact Architect

Typical Building Signage

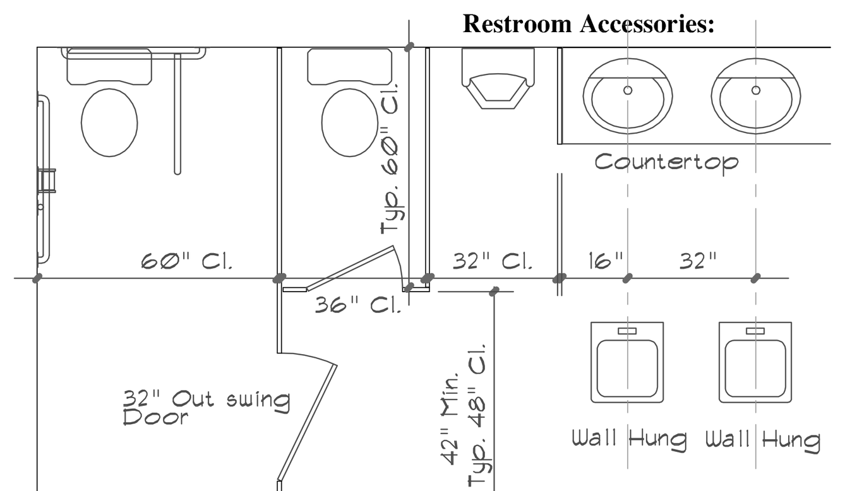


Plan Detail

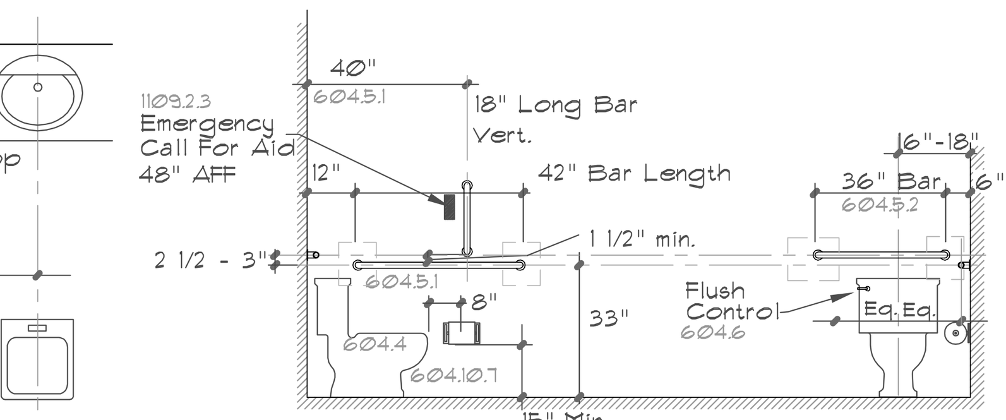
Scale: 1/4" = 1'-0"

PD-1
A1.1

Restroom Accessories:

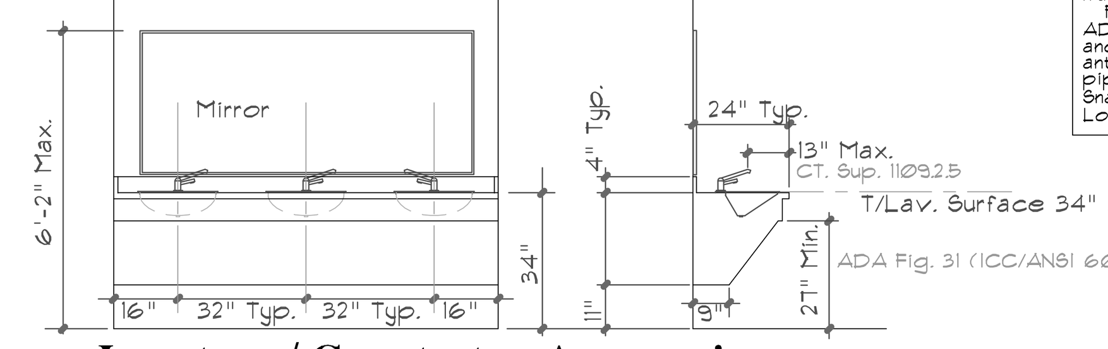


Public Restroom Layout



Water Closet Accessories

Lavatory Protection:
'TrueBro' Lav-Guard
P-trap Cover, Valve cover , Water Supply Lines
ADA conforming, wheelchair accessible Lavatories, P-Trap and angle valve assemblies shall be covered with the molded, anti microbial TRUEBROR,Inc. Lave Guard under sink protective pipe cover in Gray Color. Covers shall be secured with Snap-Clip Flush reusable fasteners, angle stop shall have Lock-lid locking access cover.



Lavatory / Countertop Accessories

Typ. Restroom Accessories & Clearances

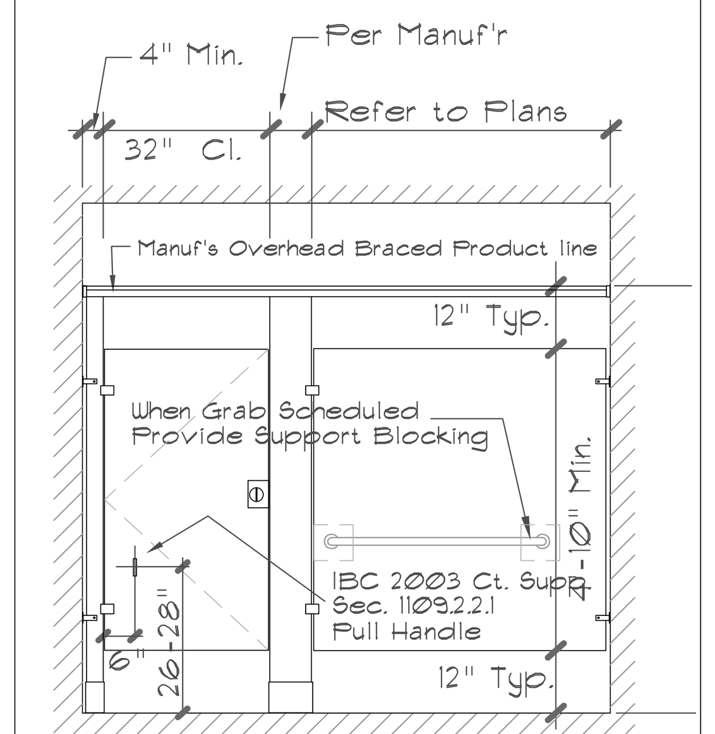
No Scale:

In Accordance with ICC / ANSI 117.1 2003 & Ct. Supplement 2005 & 2009

Toilet Partitions:

Industry standard - floor mounted - painted metal toilet partitions, 1" thick - meeting current ADA & ANSI standards with CT., Supplement for Added door pull as required by IPC 404.6 'C' profile handle installed 6" from hinge side and 26- 36" AFF. Provide Overhead (back to WC wall for Dist., 6+')

Based on : General Partitions Inc.
Series 40 - Floor Supported w/ Overhead Rail
Baked Enamel - Standards Manuf's. Colors.



Typ. Partition Elevation

Provide Yes	Provide No		TOILET ACCESSORIES SPECIFICATION:
X		GB	**GRAB BARS:** Straight: 1 1/2" diameter x 36" & 42" long Equal to Bobrick B-6806 series Special Floor / Wall Mounted
X		MIR	**MIRRORS:** Wall mirror above lavatory: B-165 Series Equal to Bobrick B-290 (18" x 32") Full length mirror: B-165 Series Equal to Bobrick B-290 (24" x 72") w/ bottom 12" AFF.
X		SP	**SOAP DISPENSER:** Equal to Bobrick B-155 Classic Series Max. 40" AFF
X		TTD	**TOILET TISSUE DISPENSER:** 17" AFF & 9" forward of WC. Equal to Bobrick B-2888 Surface MTD Multi Roll Toilet Tissue Disp.
	X	PTD & WPR	**PAPER TOWEL DISPENSER & WASTE RECEPTACLE:** Paper Towel Dispenser: Bobrick B-262 Surface mtd. 400 C-fold set at 33" AFF to outlet. Equal to: Bobrick B-275 Surface Waste Receptacle Max. 33" AFF to Top of Rim
	X	BCS 1 Horizontal / BCS 2 Vertical	**BABY CHANGING STATION** Horizontal: Equal to Koala Model KB200 35 1/4" L x 22 1/4" H. Vertical: Equal to Koala Model KB101 35 1/2 H" x 22" W. Bottom/ opened edge 34" AFF Max. One required in each restroom

Date

Revisions:

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Town of Voluntown
Public Works Garage
96 Gate Street
Voluntown, CT.

Col./ Wall Details
Plan Detail PD-1
ICC / ANSI
Accessories Info

PROJECT NO.: 2015-10-08

SCALE: AS NOTED

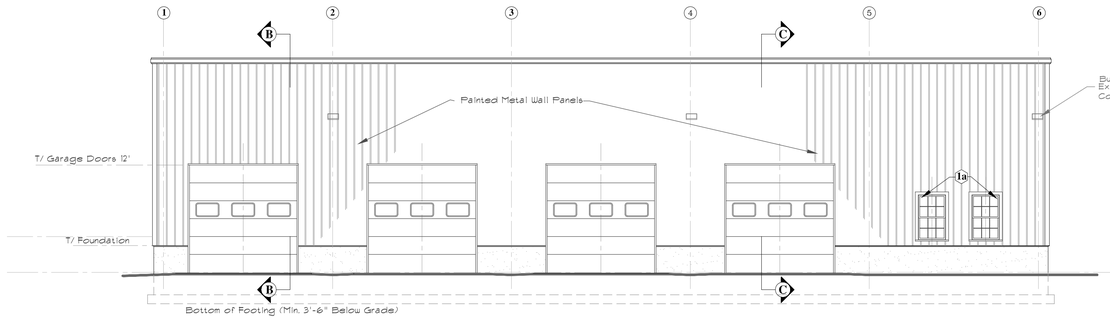
DRAWN BY: FRED M.

CHECKED BY:

DATE: Revised March 20, 2018

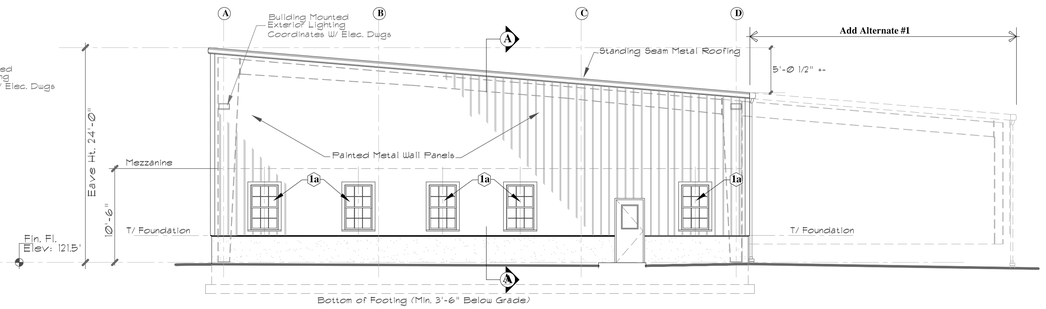
A1.1

SHEET _ OF _



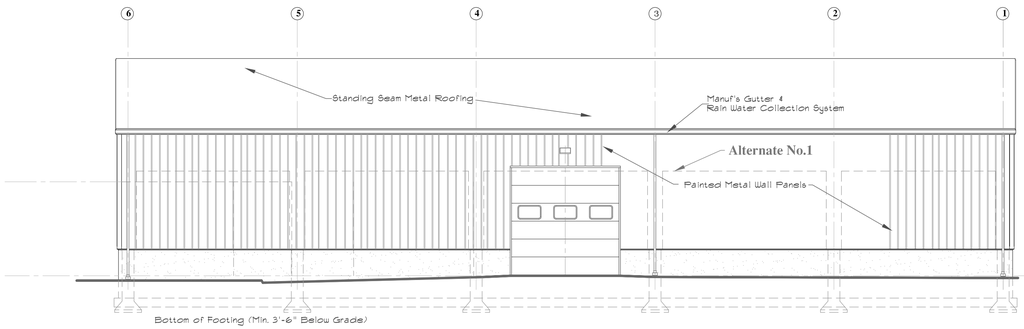
West Elevation

Scale: 1/8" = 1'-0"



South Elevation

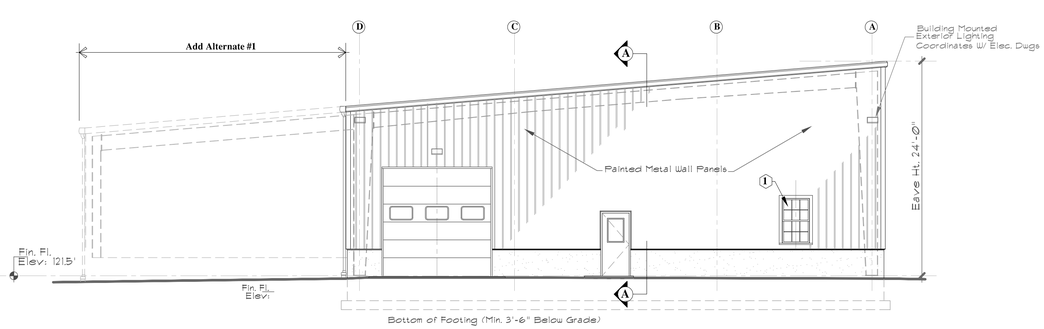
Scale: 1/8" = 1'-0"



East Elevation

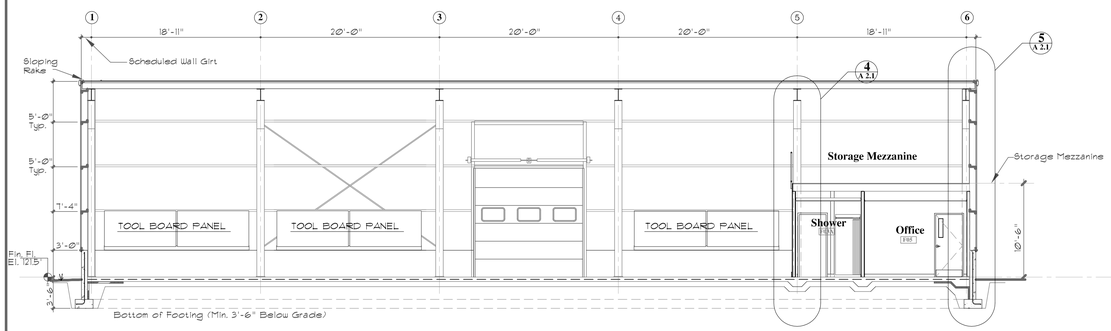
Scale: 1/8" = 1'-0"

CONTRACTOR NOTE:
Elevation shown as Base Bid Work, with outline of Alternate No. 1 shown for general reference only (refer to Alt. #1)½



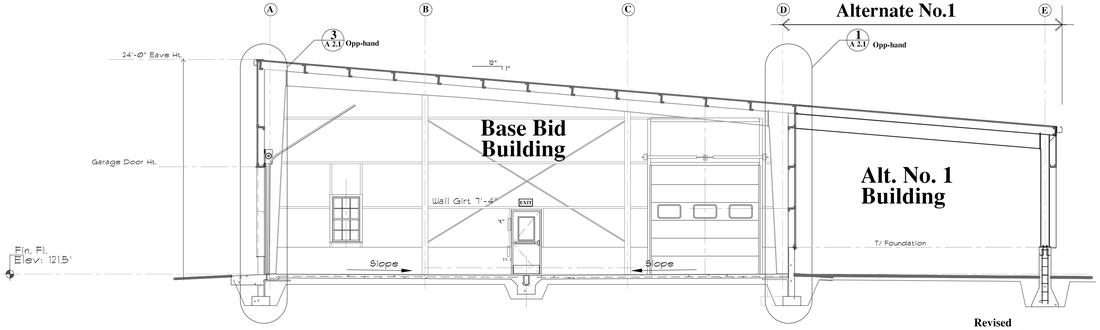
North Elevation

Scale: 1/8" = 1'-0"



Building Section 'A'-'A'

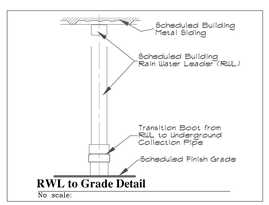
Scale: 1/8" = 1'-0"



Revised
March 20, 2018

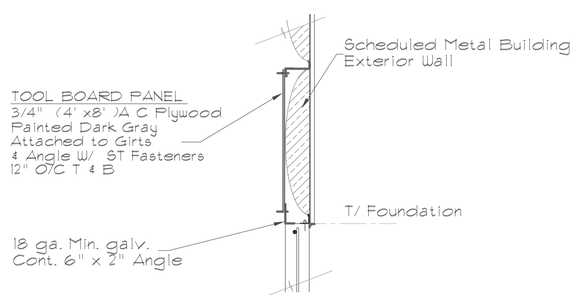
Building Section 'B'-'B'

Scale: 1/8" = 1'-0"



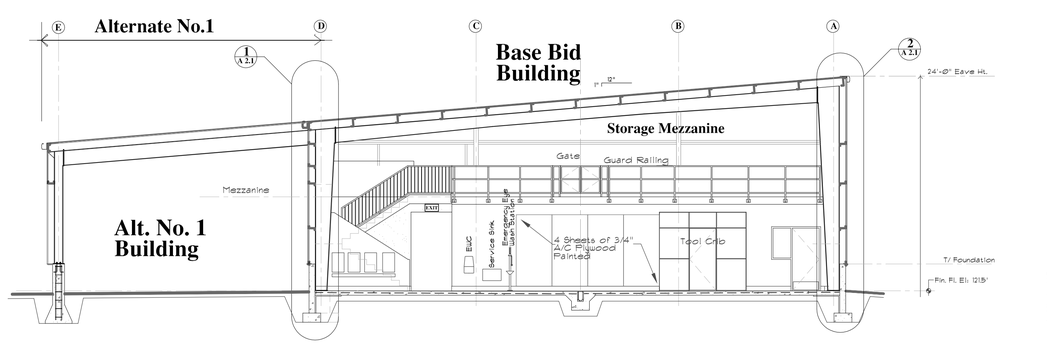
RWL to Grade Detail

No scale:



Plywood Tool Panel Detail

Scale: 1/2" = 1'-0"



Building Section 'C'-'C'

Scale: 1/8" = 1'-0"

Date

Revisions:

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Town of Voluntown
Public Works Garage
96 Gate Street
Voluntown, CT.

New work

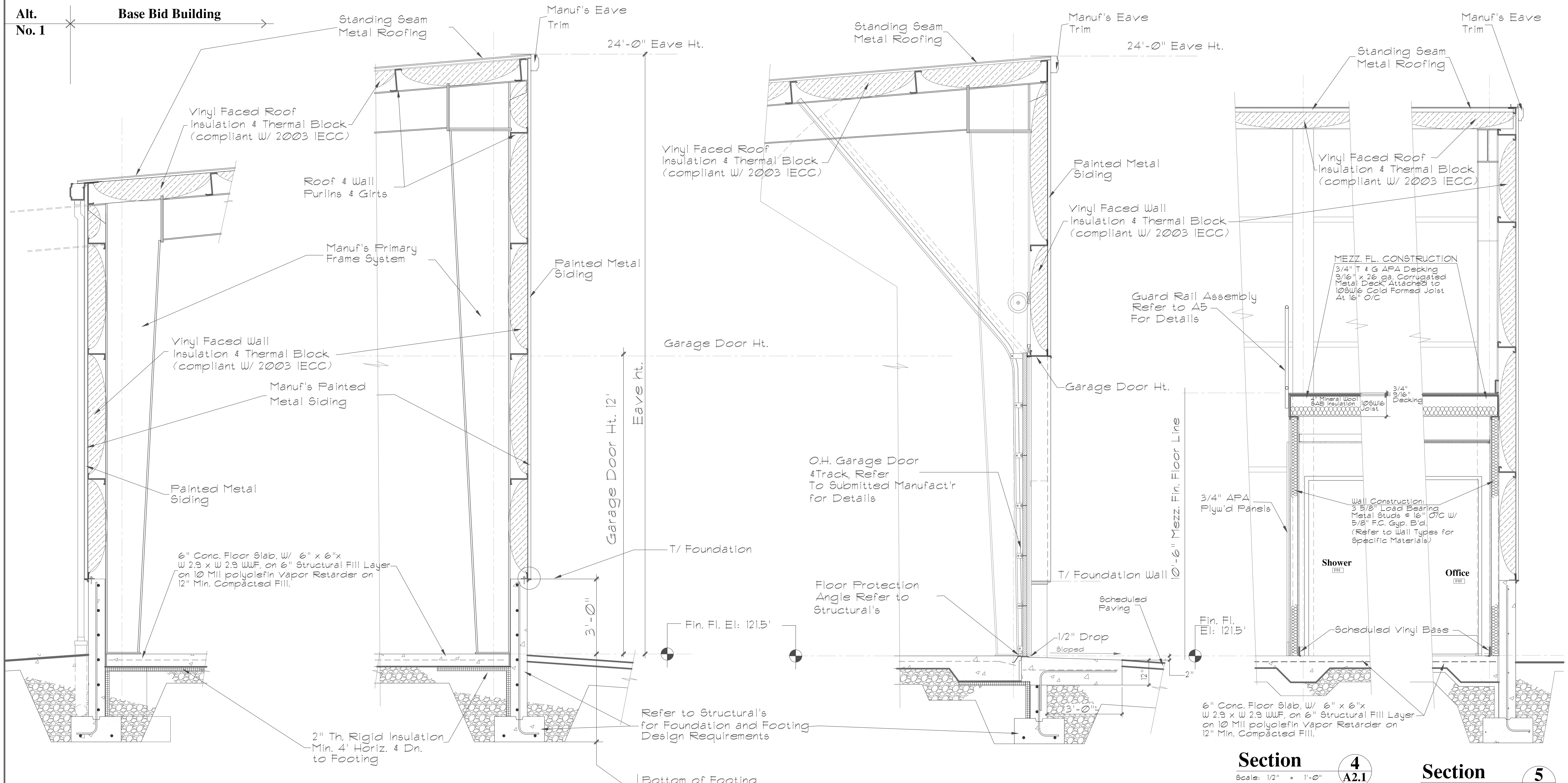
First Floor
Mezzanine
Exterior Elevations
Building Sections

PROJECT NO.: 2015-10-08

SCALE: AS NOTED
DRAWN BY: FRED M.
CHECKED BY:
DATE: Revised March 20, 2018

A2

SHEET ... OF ...



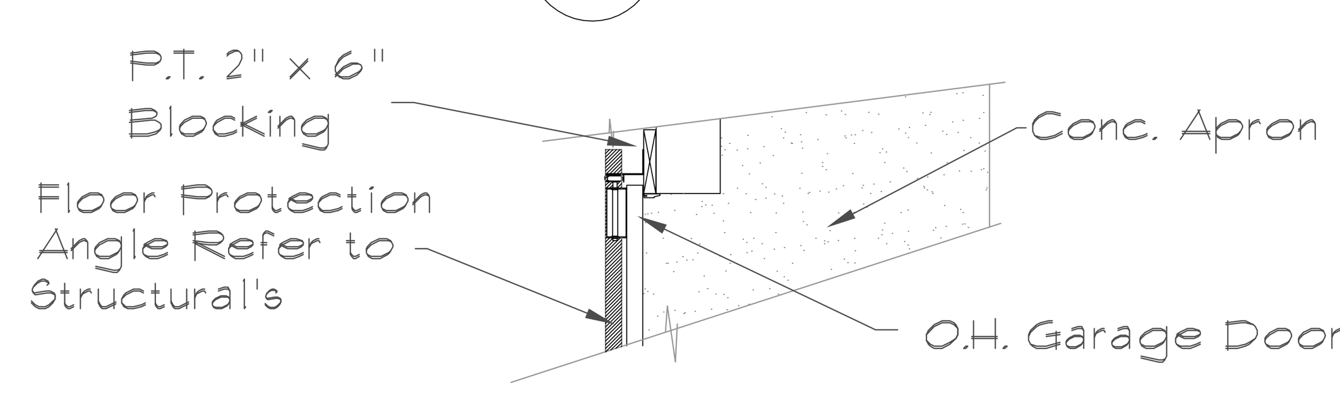
Section 1 — A2.1
Scale: 1/2" = 1'-Ø"

Section 2 — A2.1
Scale: 1/2" = 1'-Ø"

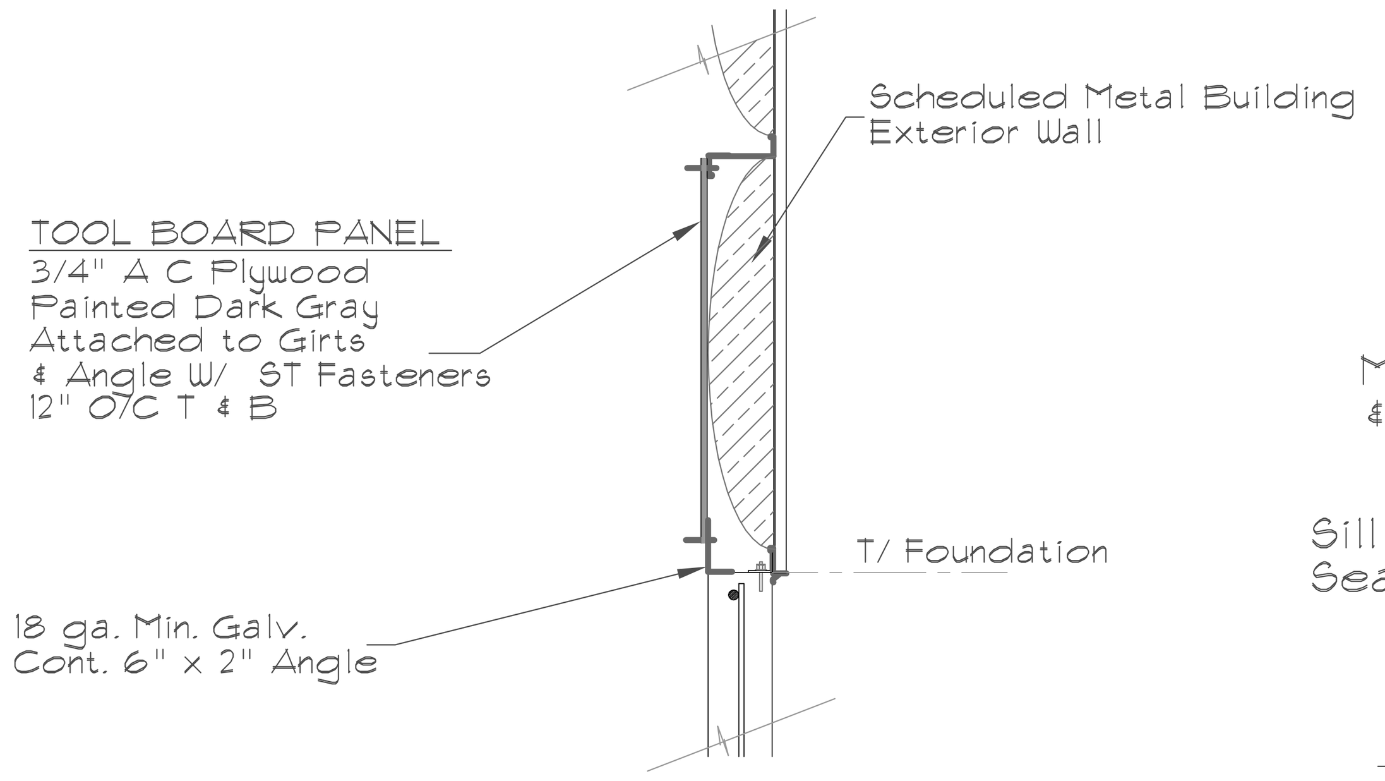
Section 3 — A2.1
Scale: 1/2" = 1'-Ø"

Section 4 — A2.1
Scale: 1/2" = 1'-Ø"

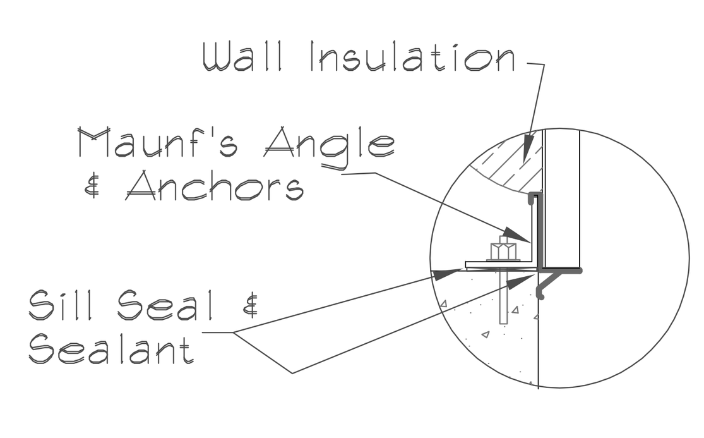
Section 5 — A2.1
Scale: 1/2" = 1'-Ø"



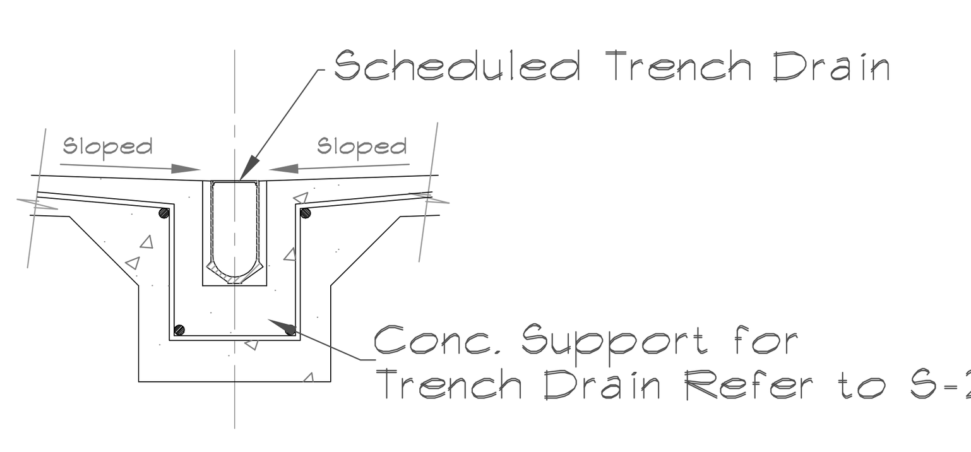
Plan @ O.H. Door & Apron
Scale: 1/2" = 1'-Ø"



Plywood Tool Panel Detail
Scale: 1/2" = 1'-Ø"



Base Angle Detail
No Scale



Trench Detail
Scale: 1/2" = 1'-Ø"

Date
Revisions:

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Town of Voluntown
Public Works Garage
96 Gate Street
Voluntown, CT.

Wall Sections
1 Thru 5

PROJECT NO.: **2015-10-08**
SCALE: **AS NOTED**
DRAWN BY: **FRED M.**
CHECKED BY:
DATE: **Revised March 20, 2018**

A2.1

SHEET _ OF _